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APPLICATION NUMBER: 60/529,342**FILING DATE: *December 12, 2003*****RELATED PCT APPLICATION NUMBER: *PCT/US04/41773*****Certified By****Jon W Dudas**

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121203

16152 U.S. PTO

PTO/SB/16 (08-03)

Approved for use through 07/31/2006. OMB 0651-0032

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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

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INVENTOR(S)					
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Additional inventors are being named on the <u>1</u> separately numbered sheets attached hereto					
TITLE OF THE INVENTION (500 characters max)					
BIRDFEEDER AND SEED DISPENSER THEREFOR					
Direct all correspondence to: CORRESPONDENCE ADDRESS					
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ENCLOSED APPLICATION PARTS (check all that apply)					
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METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT					
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.					
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FILING FEE Amount (\$) <u>80.00</u>					
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[Page 1 of 2]

Respectfully submitted,

SIGNATURE

TYPED or PRINTED NAME Rebecca A. GegickTELEPHONE (303) 232-3388Date 12-12-2003REGISTRATION NO. 51,724

(if appropriate)

Docket Number: 2103**USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT**

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Bryan K.	Krueger	

[Page 2 of 2]

Number 2 of 2

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16152

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FEE TRANSMITTAL**for FY 2004**

Effective 10/01/2003. Patent fees are subject to annual revision.

☒ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 80.00

Complete if Known

Application Number	
Filing Date	
First Named Inventor	Furman O'Dell et al.
Examiner Name	
Art Unit	
Attorney Docket No.	2103

METHOD OF PAYMENT (check all that apply)☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None☒ Deposit Account:Deposit Account Number
13-1940
Deposit Account Name
Timothy J. Martin, P.C.

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☐ Charge fee(s) indicated below ☒ Credit any overpayments☒ Charge any additional fee(s) or any underpayment of fee(s)☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 770	2001 385	Utility filing fee	
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	80.00
SUBTOTAL (1)			(\$ 80.00)

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
Independent Claims	-20** =	X	
Multiple Dependent	-3** =	X	

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 86	2201 43	Independent claims in excess of 3
1203 290	2203 145	Multiple dependent claim, if not paid
1204 86	2204 43	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)**3. ADDITIONAL FEES**

Large Entity Small Entity

Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for ex parte reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	
1403 290	2403 145	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,330	2453 665	Petition to revive - unintentional	
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 770	2809 385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$)**SUBMITTED BY**

(Complete if applicable)

Name (Print/Type)	Rebecca A. Gegick	Registration No. (Attorney/Agent)	51,724	Telephone	303 232-3388
Signature		Date	12-12-2003		

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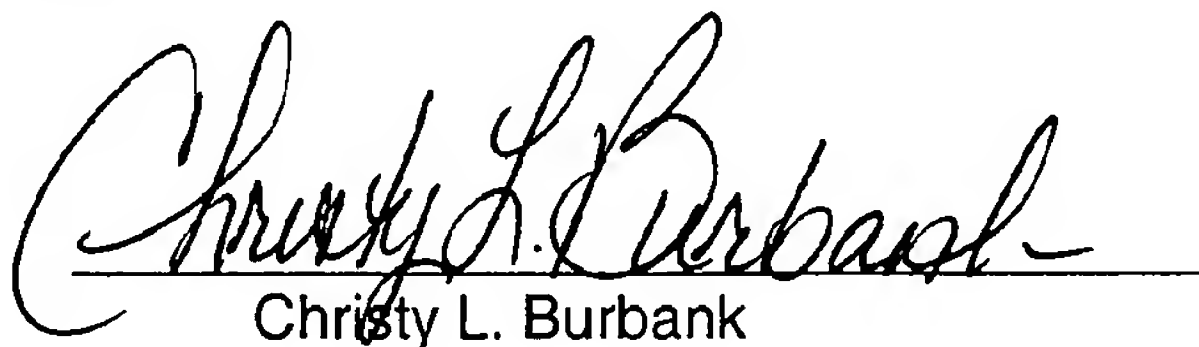
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CERTIFICATE OF EXPRESS MAILING UNDER 37 C.F.R. §1.10

I hereby certify that the attached **PROVISIONAL PATENT APPLICATION TRANSMITTAL (2 pages), FEE TRANSMITTAL (1 pag), provisional patent application entitled "BIRDFEEDER AND SEED DISPENSER THEREFOR" (16 pages), INFORMAL DRAWINGS (7 pages), APPLICATION DATA SHEET (2 pages) AND CHECK NO. 18137 IN THE AMOUNT OF \$80.00** is being deposited with the United States Postal Service as EXPRESS MAIL, label number **EU 013021724 US** for delivery in an envelope addressed to Mail Stop Provisional Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on this 12th day of December, 2003.


Christy L. Burbank

BIRDFEEDER AND SEED DISPENSER THEREFOR

FIELD OF THE INVENTION

The present invention generally relates to bird feeders for attracting and feeding wild birds. More particularly, the present invention concerns a device that enables a bird feeder to dispense different types of birdseed, thereby to attract different species of wild birds. Specifically, the present invention is directed to a rotatable seed dispenser having multiple ports for dispensing seeds of different sizes. This invention also concerns a method of providing a seed dispenser, with alternative seed ports, and selectively placing a desired seed port in the seed accessible state, thereby to permit feeding birds access to the birdseed.

BACKGROUND OF THE INVENTION

Bird watching is a highly prevalent past time in both urban and rural areas. The world is full of birds of numerous varieties in an astounding array of colors and designs. Many people enjoy viewing birds of various types, and an industry has evolved around products directed to improving the ability of persons to closely observe birds in their natural environment. On one hand, many people venture into the outdoors, where binoculars and spotting scopes may be utilized to better view various birds in their natural habitats. Such an approach requires a certain degree of skill, however, in finding and spotting various species of birds. Another approach utilizes various means of attracting birds to one's residence or a desired viewing location, such as adjacent a home's porch or window, where birds may be viewed at one's leisure.

For example, persons have used bird feeders, birdbaths, and the like to attract birds of various types to their homes. Different types of feeders have been developed, which each dispense foodstuffs that are preferred by a selected variety of

bird which a person might desire to view. For example, seeds, grains, suets, and nectars are common foodstuffs that can be dispensed by a selected type of feeder.

Seed dispensing bird feeders are perhaps the easiest and most popular way of attracting a myriad of wild birds to a particular location for viewing. This is especially so in the winter months when food is scarce. Typically, seed feeders are suspended from a pole or hung from a tree branch so as to elevate the feeder above the ground and are built to hold and protect the seed from the elements.

There are a variety of seed feeders that have been constructed to attract various species of wild birds. In general, such feeders fall into three categories: tray feeders, hopper feeders, and tube feeders. Tray feeders are rather simplistic in design and generally comprise a tray or platform on which birdseed is spread. Hopper feeders further include a feed reservoir, which is oftentimes shaped like a house. The seed is dispensed beneath the reservoir onto a tray or platform that is accessible by the birds. Tube feeders, on the other hand, are hollow, cylindrical tubes, often made of plastic, and have multiple feeding stations spaced along the length of the tube. Typically, feeding stations include both a seed port and an adjacent perch to provide the feeding bird with a place to alight.

Tube feeders are a very popular bird feeder construction due, in part, to their ability to keep the seed fairly dry and attract various bird species. Particularly, though, the size of the seed ports largely dictate the type of birdseed that may be used to fill the tube feeder and, thus, the types of bird species that will be attracted to the feeder. For example, if the seed ports are relatively large, the feeder can be filled with mixed birdseed or sunflower seeds, which will generally attract larger birds, such as blue jays, cardinals, and grackles. Smaller seed ports, on the other hand, dispense thistle seed, which is a different type of birdseed and is attractive to

finches. Accordingly, some tube feeders are specially constructed as thistle feeders with extra small ports for dispensing thistle seeds.

Oftentimes, people prefer to attract several different species of birds to a desired viewing location. Accordingly, it is not uncommon for people to own a variety of bird feeders for dispensing different types of birdseed. To accommodate this desire, there are a variety of tube feeders available, which vary in size, appearance, and of course, seed port size.

However, for many, space may be limited for hanging bird feeders, especially for individuals living in apartments with very limited balcony space. For others, time and money may simply limit one's ability to acquire and maintain several different bird feeders. As a result, many are perhaps limited to owning only one type of bird feeder that is only capable of dispensing one type of birdseed. Accordingly, there remains a need to provide a seed dispensers that are capable of dispensing different types of seed. Further, there is a need to provide new and improved bird feeders that are capable of dispensing different types of birdseed. The present invention is directed to meeting these needs.

OBJECTS OF THE INVENTION

An object of the present invention is to provide a new and useful bird feeder for attracting different species of wild birds.

Another object of the present invention is to provide a selectively versatile bird feeder that is capable of dispensing different types of birdseed.

Yet another object of the present invention is to provide an improved bird feeder that is capable of dispensing thistle birdseed, mixed birdseed, or sunflower seeds.

A still further object of the present invention is to provide a tube feeder with multiple feeding stations, which incorporate rotatable seed dispensers.

Another object of the present invention is to provide a seed dispenser with multiple seed ports.

Yet another object of the present invention is to provide a seed dispenser that is capable of dispensing at least two different types of birdseed.

A still further object to provide a method for selectively placing a desired seed port in fluid communication with the birdseed in the bird feeder.

BRIEF DESCRIPTION OF THE FIGURES

Figure 1 is a front perspective view of a new and useful bird feeder according to the present invention, which incorporates a plurality of new and useful seed dispensers, also according to the present invention according to the present invention;

Figure 2 is an exploded perspective view of a representative one of the seed dispensers shown in Figure 1;

Figure 3 is a front view in elevation of the mounting base of the seed dispenser shown in Figure 2;

Figure 4 is a rear view in elevation of the mounting base of Figure 3;

Figure 5 is a top view in elevation of the mounting base of Figure 3;

Figure 6 is a right side view in elevation of the mounting base of Figure 3;

Figure 7 is a front view in elevation of the dispensing dial of the seed dispenser shown in Figure 2;

Figure 8 is a top view in elevation of the dispensing dial;

Figure 9 is a cross-sectional view of the dispensing dial shown in Figure 7 taken about lines 9-9;

Figure 10(a) is a cross-sectional view of a representative seed dispenser shown in Figure 1 taken about lines 10(a)-10(a), in a first seed access state;

Figure 10(b) is a cross-sectional view of the seed dispenser shown in Figure 1 taken about lines 10(a)-10(a), in a second seed access state;

Figure 11 is a perspective view of an alternative bird feeder according to the present invention, which incorporates a plurality of seed dispensers according to a second exemplary embodiment of the present invention;

Figure 12 is a front perspective view, in elevation, of a bird feeder shown in Figure 11;

Figure 13 is an exploded perspective view of one of the seed dispensers shown in Figures 11 and 12;

Figure 14 is a rear perspective view in elevation of the mounting base of the seed dispenser shown in Figures 11 and 12;

Figure 15 is an exploded left side view, in elevation, of the seed dispenser shown in Figures 11 and 12;

Figure 16 is a rear view in elevation of the retaining ring shown in Figures 11 and 12;

Figure 17 is a front view in elevation of the retaining ring shown in Figures 11 and 12;

Figure 18(a) is a cross-sectional view of a representative seed dispenser shown in Figure 12 taken about lines 18(a)-18(a) in a first seed access state;

Figure 18(b) is a cross-sectional view of the seed dispenser shown in Figure 12 taken about lines 18(a)-18(a) in a first seed access state;

Figure 19 is a rear view in elevation of an alternative retaining ring;

Figure 20 is a right side view in elevation of the alternative retaining ring shown in Figure 19; and

Figure 21 is a cross-sectional view of the seed dispenser shown in Figures 11 and 12 in use with the alternative retaining ring shown in Figures 19 and 20.

DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

The present invention relates to seed dispensing bird feeders for attracting wild birds. In particular, the present invention relates to a seed dispenser that may be used in conjunction with a bird feeder so as to increase its versatility. More particularly, as contemplated, the seed dispenser of the present invention provides alternative seed apertures, each capable of dispensing different types of birdseed so as to attract a variety of species of birds.

Broadly, the seed dispenser of the present invention includes a mounting base and an alternating seed aperture piece bearing multiple seed apertures of different sizes and configurations. The mounting base may be removably mounted to the sidewall of a bird feeder such that it is partly disposed in the silo, and the alternating seed aperture piece may include at least two differently sized and configured seed apertures adapted for dispensing different types of birdseed. The alternating seed aperture piece may be in the form of a dispensing dial that is adapted to be rotatably disposed in the mounting base and selectively rotated among different seed access states. Particularly, when the desired seed aperture is in the seed accessible state, the feeding bird may access the seed therethrough while the other differently sized and configured apertures, however, are blocked such that the birds are unable to access the seed therethrough. The seed dispenser of the present invention may alternatively include a retaining piece used to secure the dispenser to the feeder and to secure the dial thereon.

To better understand the construction of the seed dispenser of the present invention, and its ability to enhance the versatility of bird feeders, reference is first made to Figure 1, which shows a bird feeder in the form of a tube feeder 10 in use with seed dispensers 30 and 31 according to the present invention. Generally, tube feeder 10 includes silo 12, lid 14, hanger member 16, and feeding stations 20. As shown, silo 12 has a cylindrical sidewall and an interior defining a reservoir for holding birdseed. Silo 12 is typically constructed from a clear plastic material, but may also be constructed of any suitable material as known in the art, such as metal, glass, and the like. Lid 14 further includes a hanger member 16, which is in the form of a chain that may be used to suspend the feeder from any appropriate support structure, such as a post, tree branch, porch ceiling, or other desired location for observing birds. Hanger member 16 may be of any suitable construction that enables tube feeder 10 to be elevated above the ground.

Feeding stations 20 include perches 18 located adjacent to a respective seed dispenser 30 and 31. Since seed dispensers 30 and 31 are identical in construction, seed dispenser 30 will be used as a representative sample to discuss the construction of the seed dispensers in more detail. Seed dispenser 30 may be removably disposed in designated locations along the length of sidewall of silo 12. More particularly, seed dispenser 30 is adapted to nest within holes cut out of the sidewall of the silo so as to be mounted to the sidewall of silo 12. For example, mounting hole 80, as shown in Figure 1, is cut directly out of the sidewall of silo 12. As shown, mounting hole 80 further includes registration notch 82, which will be described below in further detail. Seed dispenser 30 may be either removably disposed in hole 80 or, alternatively, permanently fixed therein.

Although not shown, it may be desirable to reinforce the bird feeder silo in an area proximate to the seed dispensing device 30 with metal such as copper, stainless steel, and the like. Metal reinforcement of the area surrounding seed dispensing device 30 assists in preventing squirrels from chewing the sidewall of silo 12 in and around the feeding stations and gaining access to the seed.

Before describing the nested relationship between seed dispenser 30 and mounting hole 80 in further detail, it is perhaps first helpful to better understand the construction of the seed dispenser itself. Accordingly, with reference now to Figure 2, seed dispenser 30 generally includes mounting base 40 and an alternating seed aperture piece, which is shown here to be in the form of a dispensing dial 60. Both the mounting base 40 and the dispensing dial 60 may be made of plastic, wood, metal, or any other material suitable for the construction of a bird feeder.

Mounting base 40 is shown in Figures 2-6. As shown, mounting base 40 is unitary in construction and has a front portion 42 and back portion 44, which are separated from one another by a partitioning wall 46. Front portion 42 includes sidewall 50, which extends outwardly from partitioning wall 46 to terminate in rim 48. Retaining tabs 52 are disposed on the interior surface of sidewall 50 in spaced relation to one another. While two retaining tabs 52 are shown, it should be appreciated that any number of retaining tabs may be disposed circumferentially about sidewall 50. Preferably, though, the number and placement of retaining tabs 52 is able to accomplish an engagement between mounting base 40 and dispensing dial 60 sufficient to retain dispensing dial therein while allowing rotation of dispensing dial 60 relative to the mounting base 40.

As shown in Figures 4-6, back portion 44 of mounting base 40 includes prongs 54 and registration finger 56. The backside of retaining tabs 52 is also

shown. Prongs 54 are adapted to releasably secure mounting base 40 on the sidewall of silo 12 in mount hole 80 (shown in Figure 1). Further, registration finger 56 is adapted to engage registration notch 82 shown in Figure 1 to facilitate proper registration of mounting base 40 within mount hole 80. These features are discussed in further detail below in reference to Figures 10(a) and 10(b).

Retaining tabs 52 and prongs 54 may be formed as an integral part the mounting base as a one-piece molding of plastic. Retaining tabs 52 and prongs 54 may be made of other materials, but are preferably resilient so as to allow the respective pieces to be fitted together as is contemplated by this exemplary embodiment of the present invention.

Partitioning wall 46, which partitions mounting base 40 is shown in Figures 2-4 to include seed outlet port 58. Outlet port 58 is shown as a semi-circular opening that is approximately half the size of wall 46. As should be understood, outlet port 58 is not limited to the size and configuration shown, however, it is preferred that outlet port 58 be of a size and configuration that can dispense multiple types of birdseed.

Now that mounting base 40 has been described in some detail, the features of dispensing dial 60 may be discussed. First, as may be seen with reference to Figures 2 and 7-9, dispensing dial 60 includes a disc-shaped wall 61 that has a front surface 62 and a back surface 64 defined by edge 63 and two seed apertures 66 and 68 formed therethrough. First seed aperture 66 is in the form of a thistle seed dispenser and second seed aperture 68 is in the form of a mixed seed dispenser and is surrounded by a forwardly projecting, cup-shaped trough 69. Mixed seed aperture 68 is primarily sized and adapted to dispense mixed seed or sunflower seeds, which may collect trough 69 so as to be accessible by the feeding birds.

Having now discussed mounting base 40 and dispensing dial 60 independently, their interrelationship may now be described. As mentioned above, dispensing dial 60 is adapted to be rotatably disposed in mounting base 40. More particularly, and with reference to Figure 2, dispensing dial 60 may be pressed into place in interior 41 such that edge 63 clears retaining tabs 52 and back surface 64 confronts partitioning wall 46, thereby to accomplish a snap-fit engagement.

With reference now to Figure 1 and Figure 10(a), the interrelationships between mounting base 40 to both dispensing dial 60 and silo 12 may now be more fully appreciated. As shown, mounting base 40 is nested within mount hole 80 of silo 12 such that it is mounted to the sidewall of silo 12 and partly disposed therein. Accordingly, registration post 56 is seated within registration notch 82 and prongs 54 anchor mounting base 40 to the sidewall of silo 12. Dispensing dial 60 is rotatably disposed in mounting base 40. Accordingly, back surface 64 is in confronting relationship with partitioning wall 46 of the mounting base. Further, edge 63 has been pressed past retaining tabs 52 and is frictionally engaged with sidewall 50. Mixed seed aperture 68 is in the seed accessible state, and, as such, it is in fluid communication with outlet port 58.

Dispensing dial 60 may be rotated, if desired, to register thistle seed aperture 66 in the seed accessible state. With reference then to Figure 10(b), thistle seed aperture 66 is now in fluid communication with outlet port 58. As such, mixed seed aperture 68 is now in the inactive state.

An alternative seed dispenser, according to the present invention, is shown in Figures 11-18. Broadly, this alternative seed dispenser includes three pieces – a mounting base, an alternating seed aperture piece, and a retaining piece. Since the alternating seed aperture piece has the same construction as that described above

with reference to Figures 1-10, the following discussion will focus primarily upon the construction of the mounting base, the retaining piece, and the interrelationship among the three pieces.

Turning first to Figures 11 and 12, a birdfeeder in the form of hopper feeder 110 is shown to include silo 112, lid 114, and feeding stations 120, two of which are shown. Each feeding station 120 includes a perch 118 located adjacent a respective seed dispenser 130 and 131, which are adapted to be mounted to the sidewall of silo 112, in fluid communication with the bird seed inside the silo via a mounting hole, such as mount hole 180, which may be cut out of the sidewall of silo 112. Mount hole 180 includes first notches 182 and second notches 184, which will be described in further detail below.

Since seed dispensers 130 and 131 are identical, seed dispenser 130 will be used as a representative sample to discuss the construction of this exemplary embodiment of the present invention. Accordingly, with respect to Figure 13, seed dispenser 130 generally includes mounting base 140, an alternating seed aperture piece in the form of dispensing dial 160, and a retaining piece in the form of retaining ring 190. Each of these three pieces may be made of metal, plastic, a composite thereof, or other material suitable as a seed dispenser for use with a bird feeder.

Similar to seed dispenser 30 described above, mounting base 140 mounts seed dispenser 130 to the sidewall of the bird feeder silo and dispensing dial 160 is rotatably disposed therein to allow a desired seed aperture 166 or 168 to be in the seed accessible state. As shown in Figures 13-15, mounting base 140 is an annular piece of unitary construction with a front portion 142 and a back portion 144 separated by a partitioning wall 146. Partitioning wall 146 includes outlet port 158, which, similar to the seed dispenser shown in Figures 1-10, is sized to dispense

different types of birdseed. When a desired seed aperture 166 or 168 is registered to be in fluid communication with outlet port 158, feeding birds may access the selected seed within the silo.

With continued reference to Figures 13-15, mounting base 140 has an outer surrounding sidewall 150 with an inner surface 151 located in front portion 142. Notably, inner surface 151 does not include retaining tabs disposed circumferentially thereabout to retain dispensing dial 160 therein. Rather, as will be discussed in more detail below, retaining ring 190 is adapted to retain dispensing dial 160 therein when the three pieces are assembled.

Mounting base 140 is also shown to include a pair of first ears 152 and a pair of second ears 154 disposed about the outer surface of sidewall 150. As shown in Figure 15, first ears 152 are adapted to allow screws 153 to pass therethrough so as to be received by stand offs 196 of retaining ring 190. Accordingly, retaining ring 190 may be releasably secured to mounting base 140. As shown, grooves 169 may further be associated with first ears 152 to help alignment of the screws with the ears and to reduce any gaps or open spaces resulting from the coupling of the mounting base and the retaining ring. Second ears 154, are adapted to receive a respective screw 157, which, in conjunction with a respective washer 159 releasably secure mounting base 140 to the sidewall of the bird feeder silo. This will be discussed in more detail below with respect to Figures 18(a) and (b).

As should be appreciated by one skilled in the art, other forms of fasteners besides screws 153 may be used to couple the mounting base and retaining ring. For example, fasteners such as nails, rivets, and the like can pass through first ears 152 to be secured into the retaining ring. It should also be appreciated that the location of first ears 152 and second ears 154 are not limited to the respective

locations shown in the Figures. Further, additional first or second ears could be disposed about the surface of the outer sidewall for additional places of securement. Alternatively, first and second ears 152 and 154 may be formed in outer sidewall 150 of retaining ring 190 such that they do not project therefrom and such that the outer surface of sidewall 150 is generally uniform.

With continued reference to Figures 13 and 15, and with additional reference to Figures 16 and 17, retaining ring 190 is shown as an annulus of unitary construction having a front surface 192, a back surface 194, an outer edge 193, and an inner edge 195. As perhaps best shown in Figures 13 and 15, retaining ring 190 further includes a sidewall 197 extending from inner edge 195 outwardly from back surface 194 to terminate in rim 191.

As shown in Figures 13 and 16, three retaining tabs 198 are disposed about the inner surface of sidewall 197 in spaced relation to one another. As contemplated, when the seed dispenser is assembled, retaining tabs 198 confront the front surface 162 of dispensing dial 160 so as to keep dispensing dial 160 between retaining ring 190 and mounting base 140. Although three retaining tabs 198 are shown, any number of retaining tabs may be disposed circumferentially about sidewall 197. Preferably though, the number, size, and placement of the tabs allows free rotation of the dispensing dial but yet creates enough friction such that the dispensing dial stays in place while in use. Alternatively, retaining tabs could be disposed on the front surface of dispensing dial 160 instead of about sidewall 197 of the retaining ring. As contemplated, an appropriate number of retaining tabs could be disposed circumferentially about the front surface 162 of the dispensing dial so as to confront portions of the rim 191 of the retaining ring.

Now that the individual components of the alternative seed dispenser shown in Figures 11-17 have been described in some detail, both its assembly and interrelationship with a bird feeder may be more fully appreciated. Turning then to Figures 18(a) and 18(b), assembled seed dispenser 130 is shown mounted to the sidewall of silo 112 adjacent perch 118. Mounting base 140 and retaining ring 190 are releasably secured to one another by screws 153 and dispensing dial 160 is rotatably disposed therebetween such that front surface 162 confronts rim 191 and retaining tabs 198. In Figure 18(a), seed dispenser 130 is in the first seed access state wherein mixed seed aperture 168 is in fluid communication with outlet port 158. In Figure 18(b), seed dispenser 130 is in the second seed access state wherein thistle seed aperture 166 is in fluid communication with outlet port 158.

As briefly mentioned above, seed dispenser 130 nests within a mount hole cut out of the sidewall of the bird feeder silo and is retained in position with fasteners in the form of screws. More specifically, mounting base 140 nests within mount hole 180, which is shown in Figure 12. Since first ears 152 and second ears 154 project from the outer sidewall 150 of mounting base 140, mount hole 180 further includes first notches 182 and second notches 184, which correspond, respectively to first ears 152 and second ears 154 such that hole 180 nestably receives mounting base 140.

Mounting base 140 is releasably secured to the sidewall of silo 112 by a fastener in the form of screw 157 and washer 159. More specifically, a respective screw 157 is received by a respective second ear 154 (shown in Figure 14). Together, screw 157 and washer 159, anchor mounting base 140 to the sidewall of silo 112 thereby to releasably fasten the seed dispenser thereto.

Turning now to Figures 19 and 20 an alternative retaining ring 290 is shown which is also an annulus of unitary construction having a front surface 292, back surface 294, an outer edge 293, and an inner edge 295. Retaining ring 290 further includes a sidewall 297 extending from inner edge 295 outwardly from back surface 294 to terminate in rim 291. As compared to retaining ring 190 shown above in Figures 13, 15-18(a) and (b), retaining ring 290 in Figures 19 and 20 does not include separate, angularly spaced retaining tabs to hold the dispensing dial in place. Rather, sidewall 297 includes a radially inwardly projecting rim 291 extending around the inner perimeter of sidewall 297 that is wide enough to confront the front surface 262 of dispensing dial 260. This confronting relationship is shown in Figure 21. As may be seen, rim 291 confronts front surface 262 proximately to edge 263 of dispensing dial 260. Accordingly, rim 291 keeps dispensing dial 260 between retaining ring 290 and mounting base 240.

Accordingly, the present invention has been described in great detail with reference to Figures 1-21. It should be appreciated from the foregoing that variations of the constructions described may be made by the ordinarily skilled artisan in this field without departing from the inventive concepts herein. For example, the individual pieces that make up the alternative seed dispensers are not limited to any particular size or dimension. Rather, the configuration of these pieces are primarily dictated by the sidewall of the bird feeder silo that incorporates the seed dispenser. Also, the seed dispenser may employ alternative means by which the seed ports are alternated between the various seed access states. For example, an alternating seed aperture piece that moves horizontally or vertically within the mounting base is contemplated whereby the horizontal or vertical movement shifts the seed aperture piece among the seed access states.

Also, as should be appreciated, the present invention further contemplates a method of selectively placing a desired seed port in the seed accessible state. More particularly, the method includes providing a seed dispenser having alternative seed ports. The method further includes rotating or otherwise moving a piece of the seed dispenser so as to place a desired seed port in the seed accessible state thereby to permit feeding birds access to the birdseed in the bird feeder silo. It should be appreciated that the methodology of the present invention can include any steps, not limited to those discussed hereinabove, that can be accomplished by the above-described structures.

Accordingly, the present invention has been described with some degree of particularity directed to the exemplary embodiments of the present invention. It should be appreciated, though, that modifications or changes may be made to the exemplary embodiments of the present invention without departing from the inventive concepts contained herein.

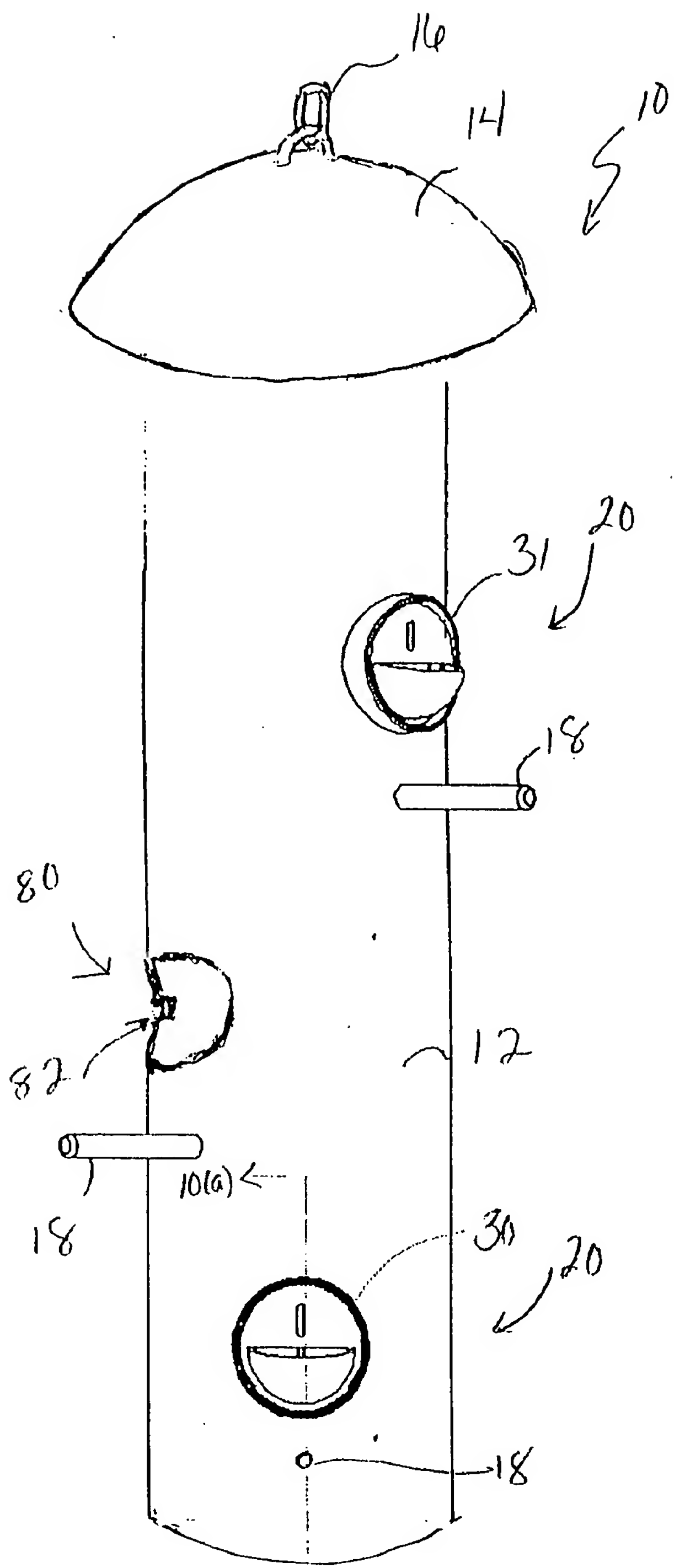


FIG. 1

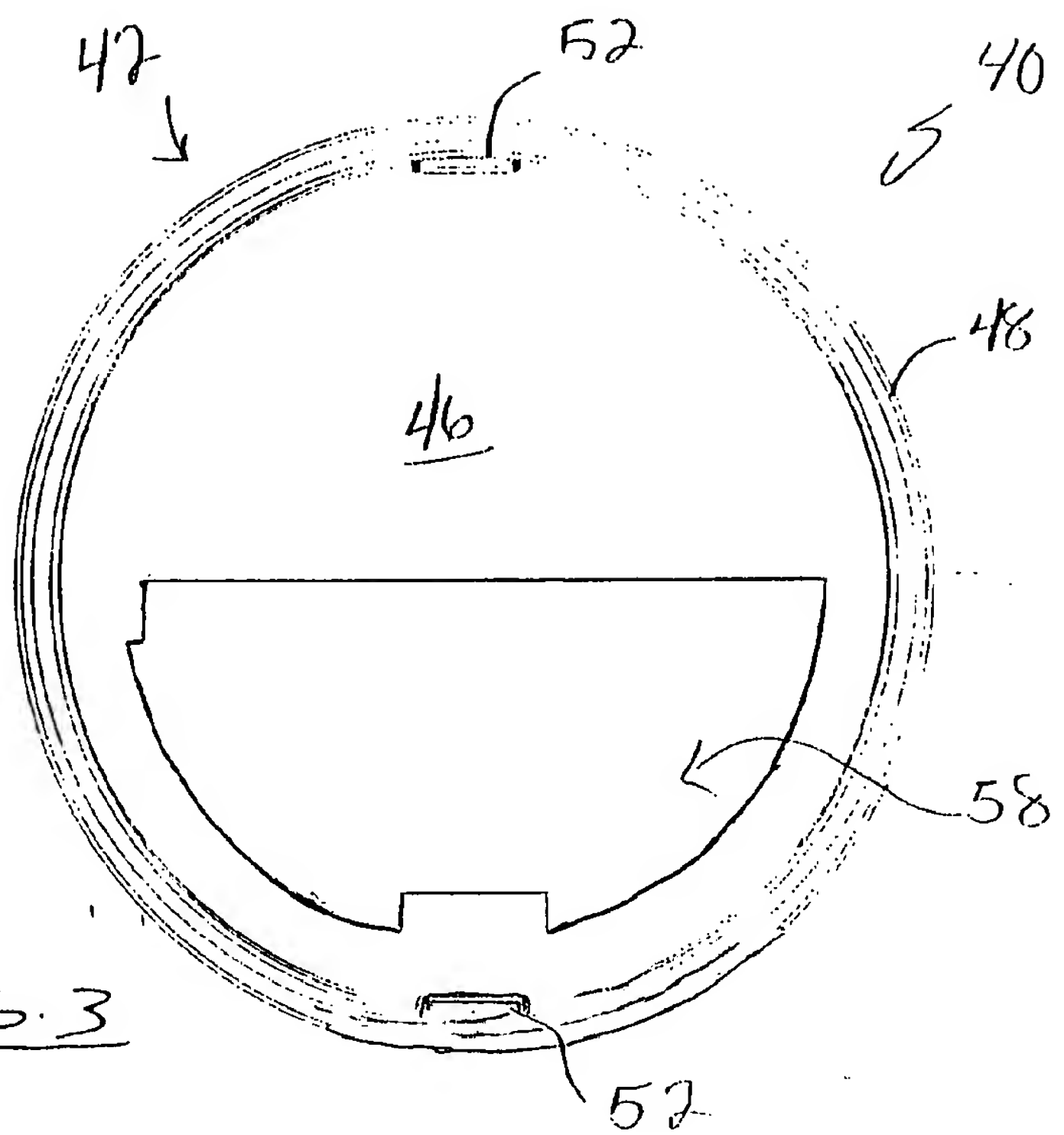


FIG. 3

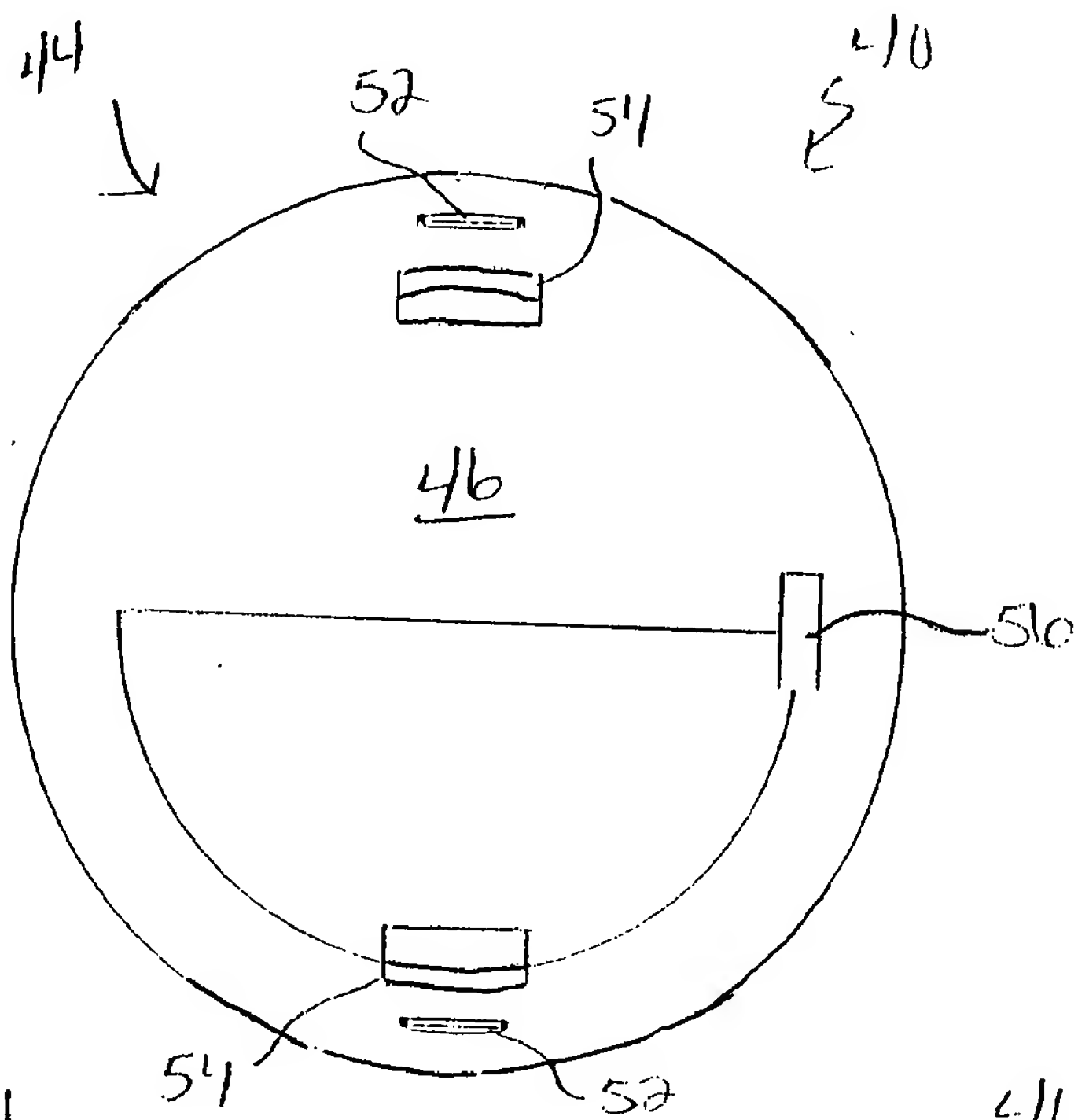


FIG. 4

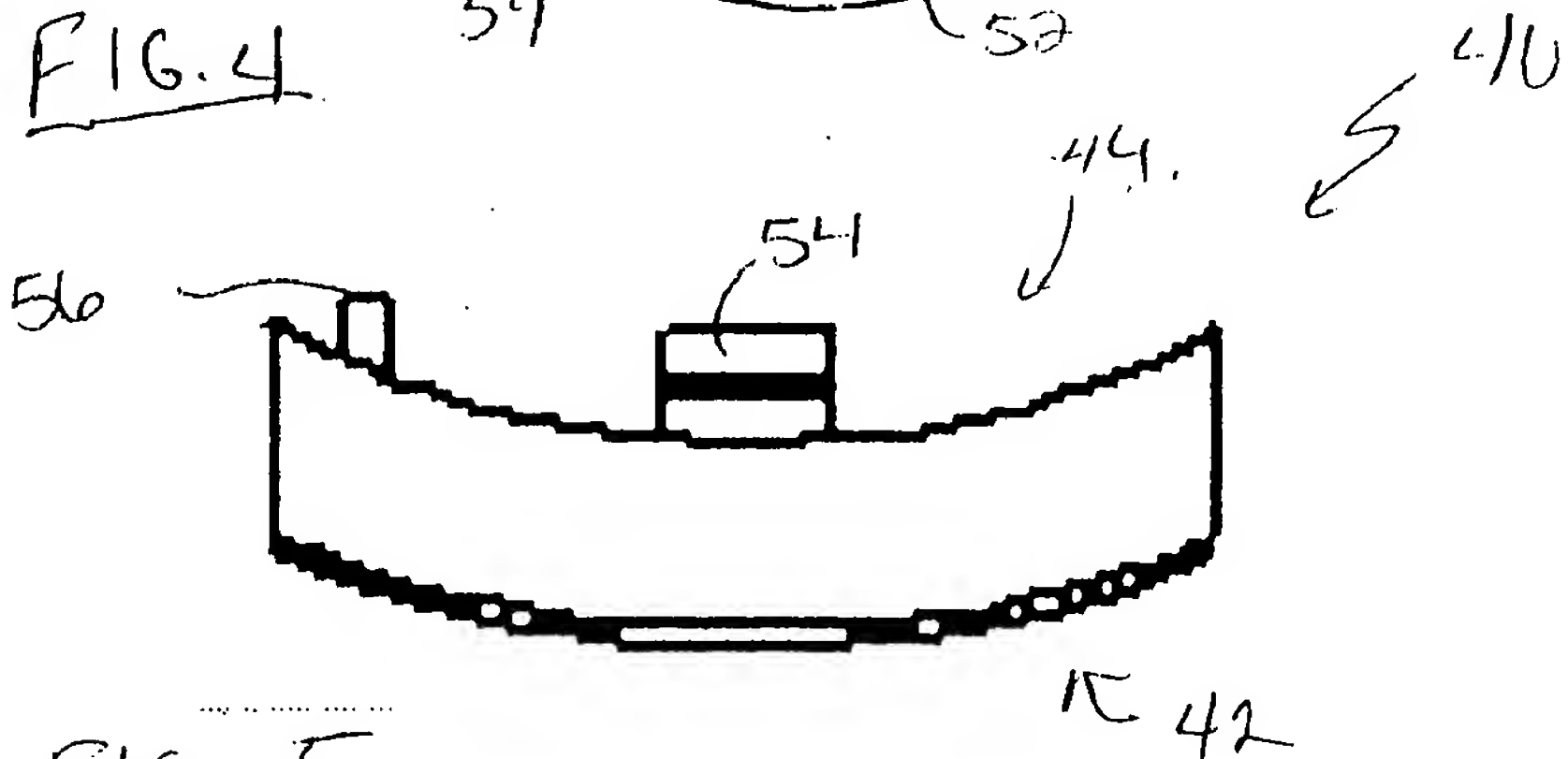


FIG. 5

FIG. 2

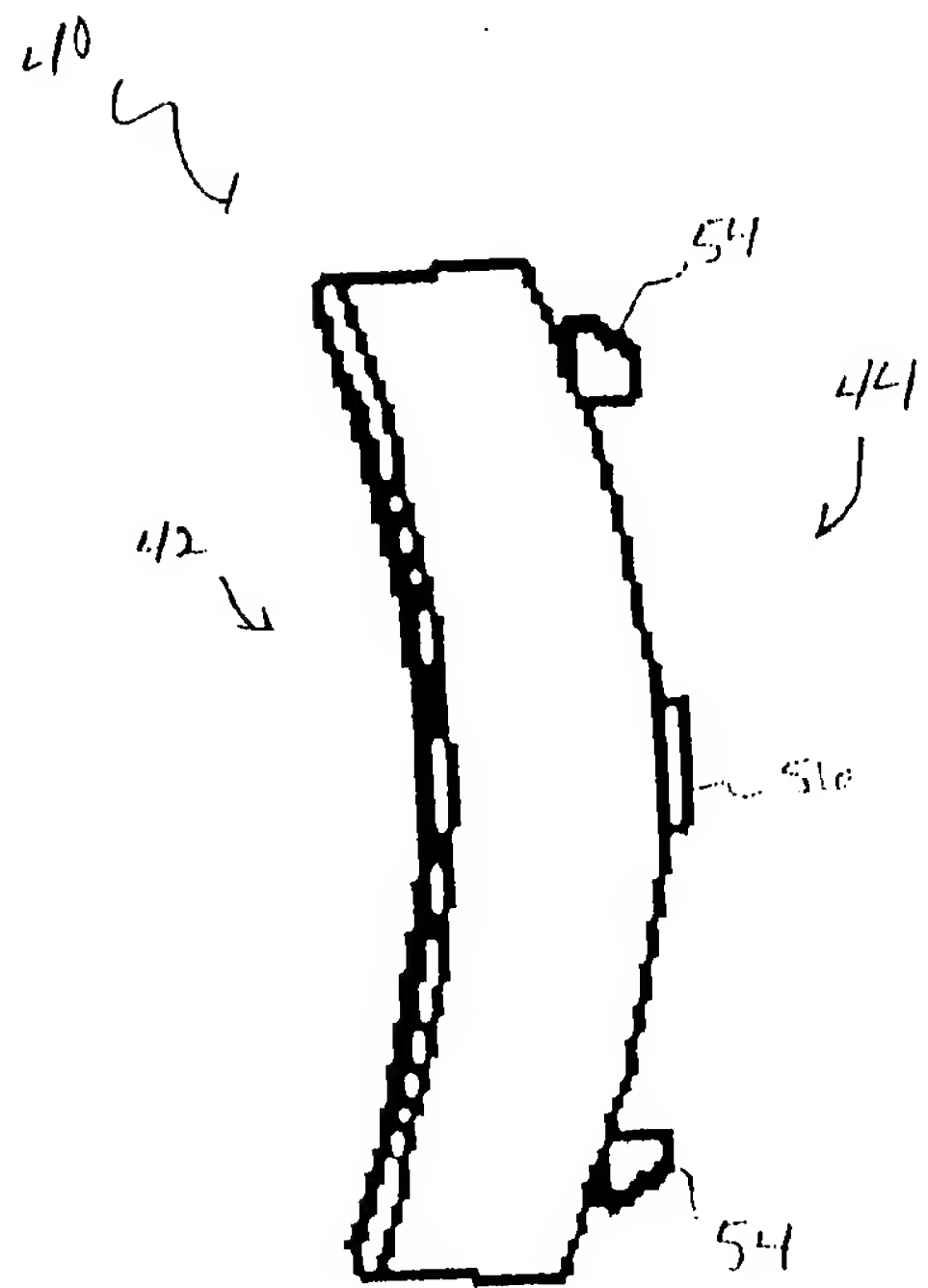
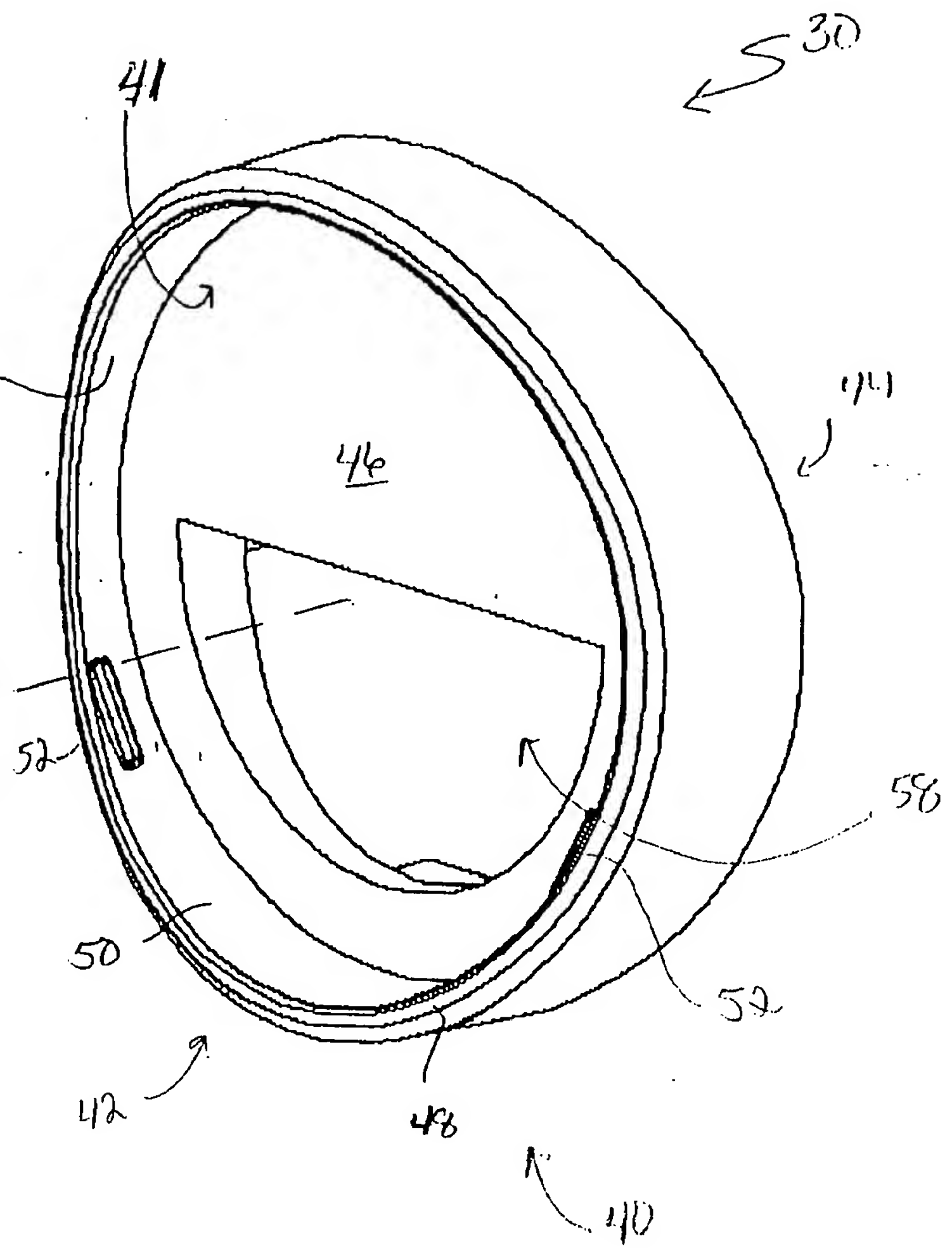
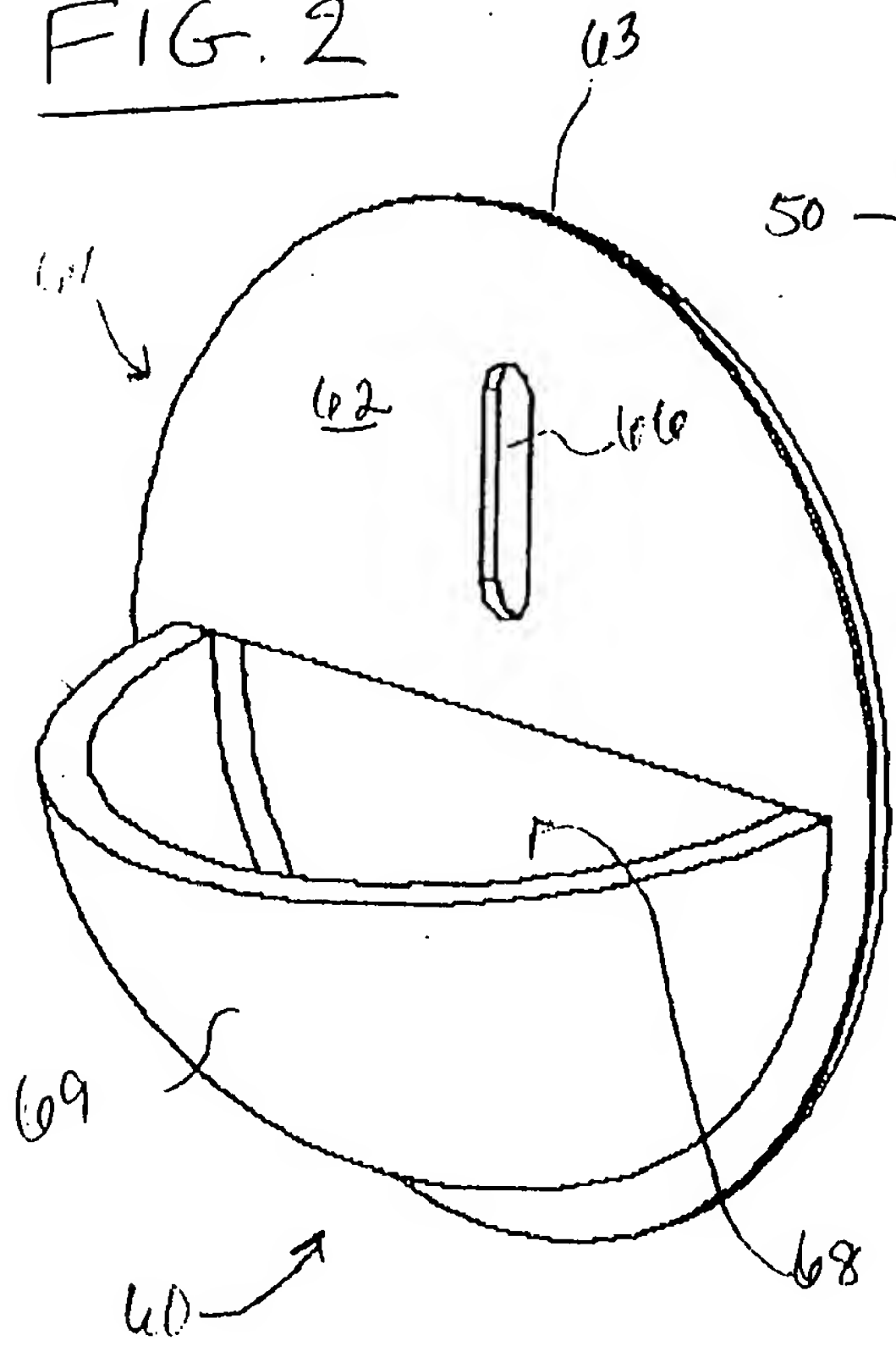


FIG. 6

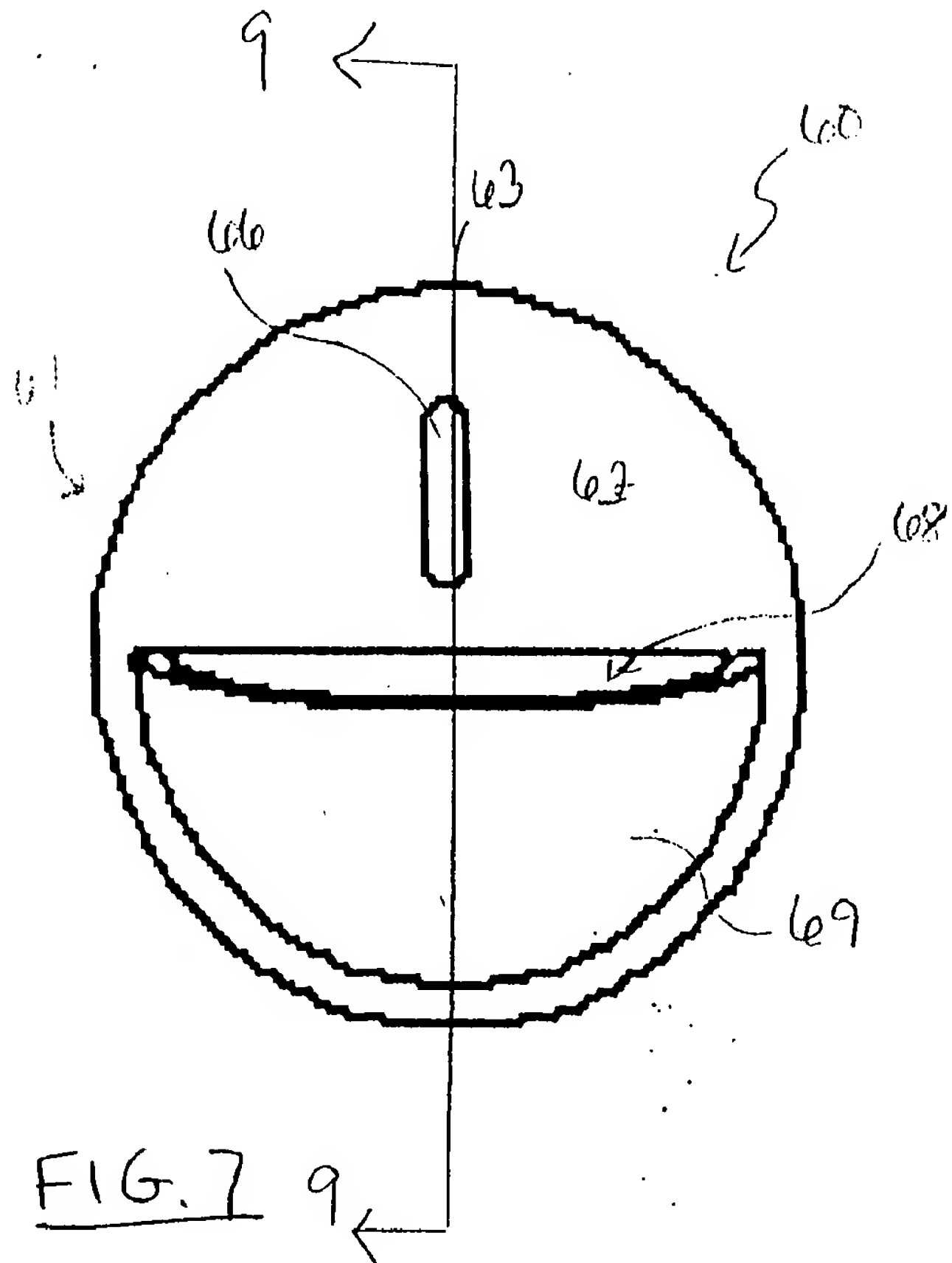


FIG. 7

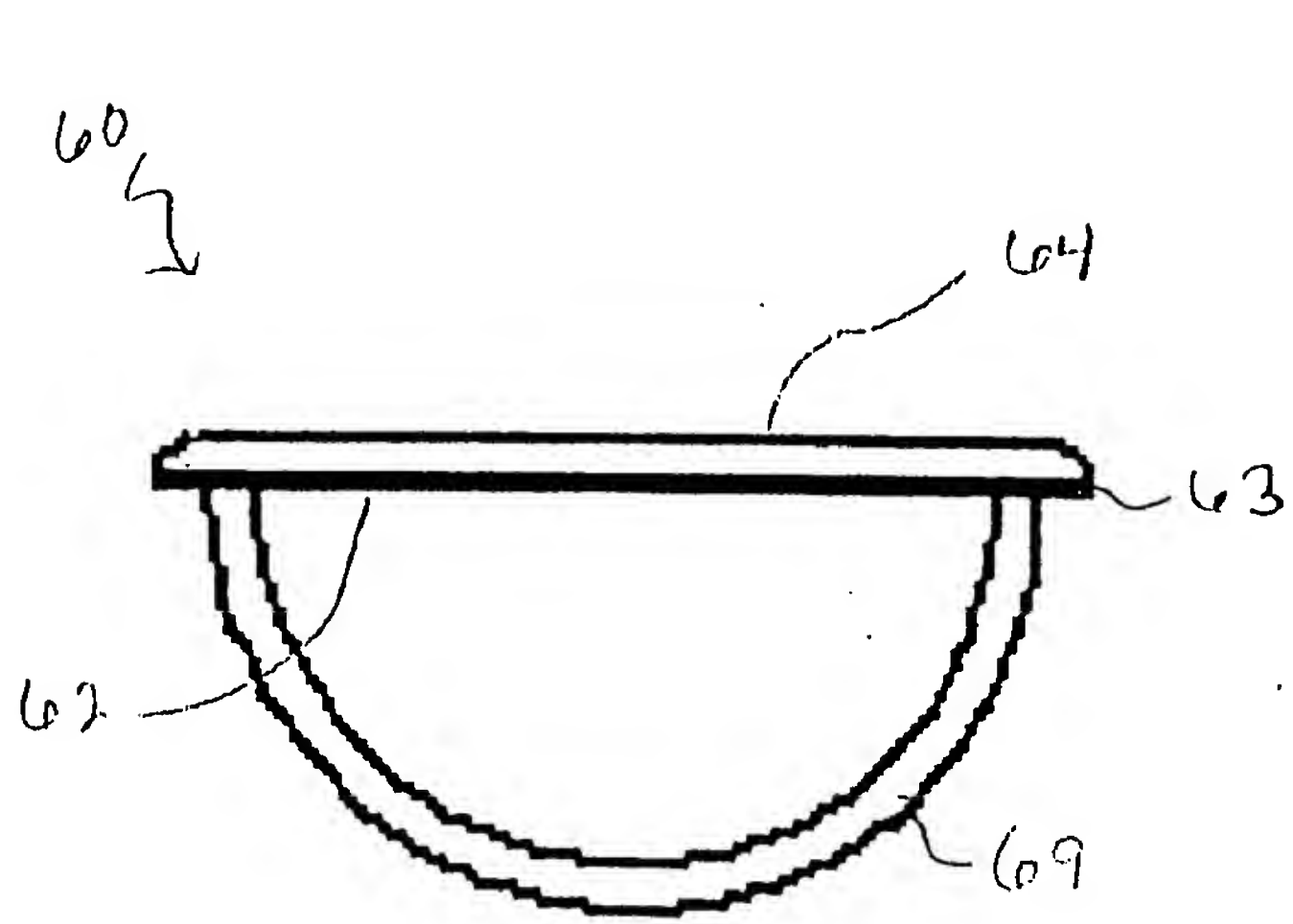


FIG. 8

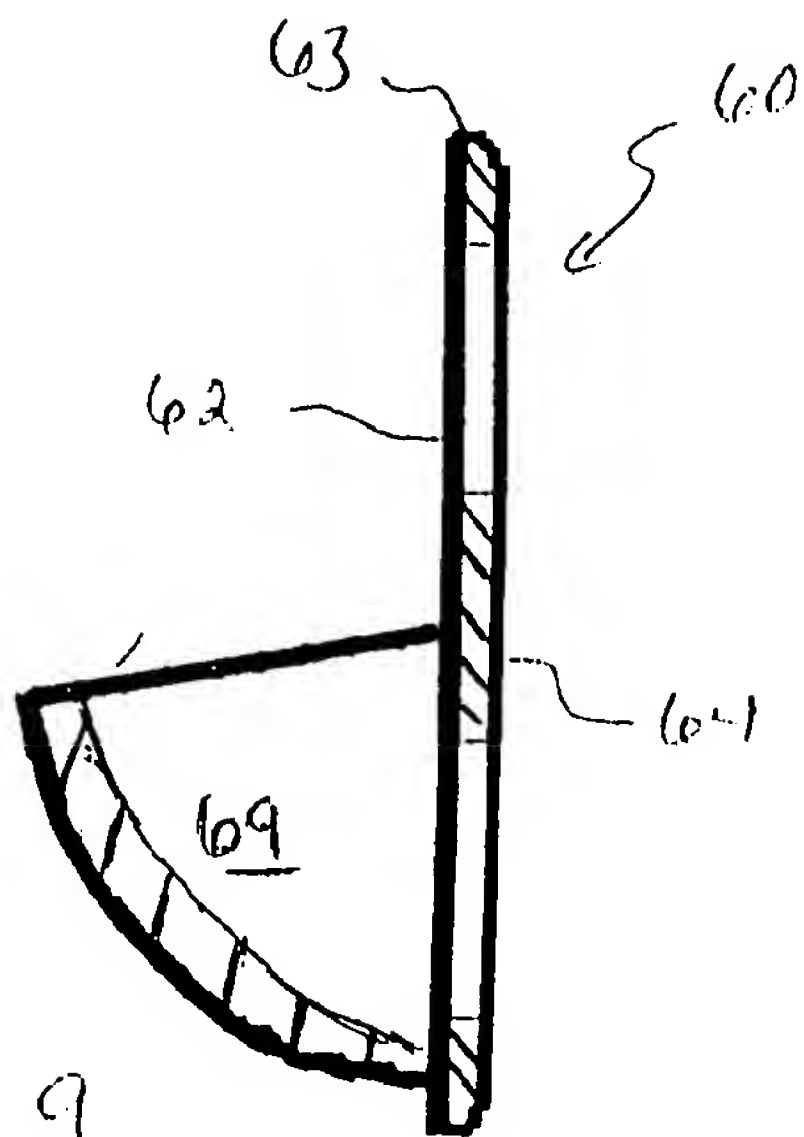


FIG. 9

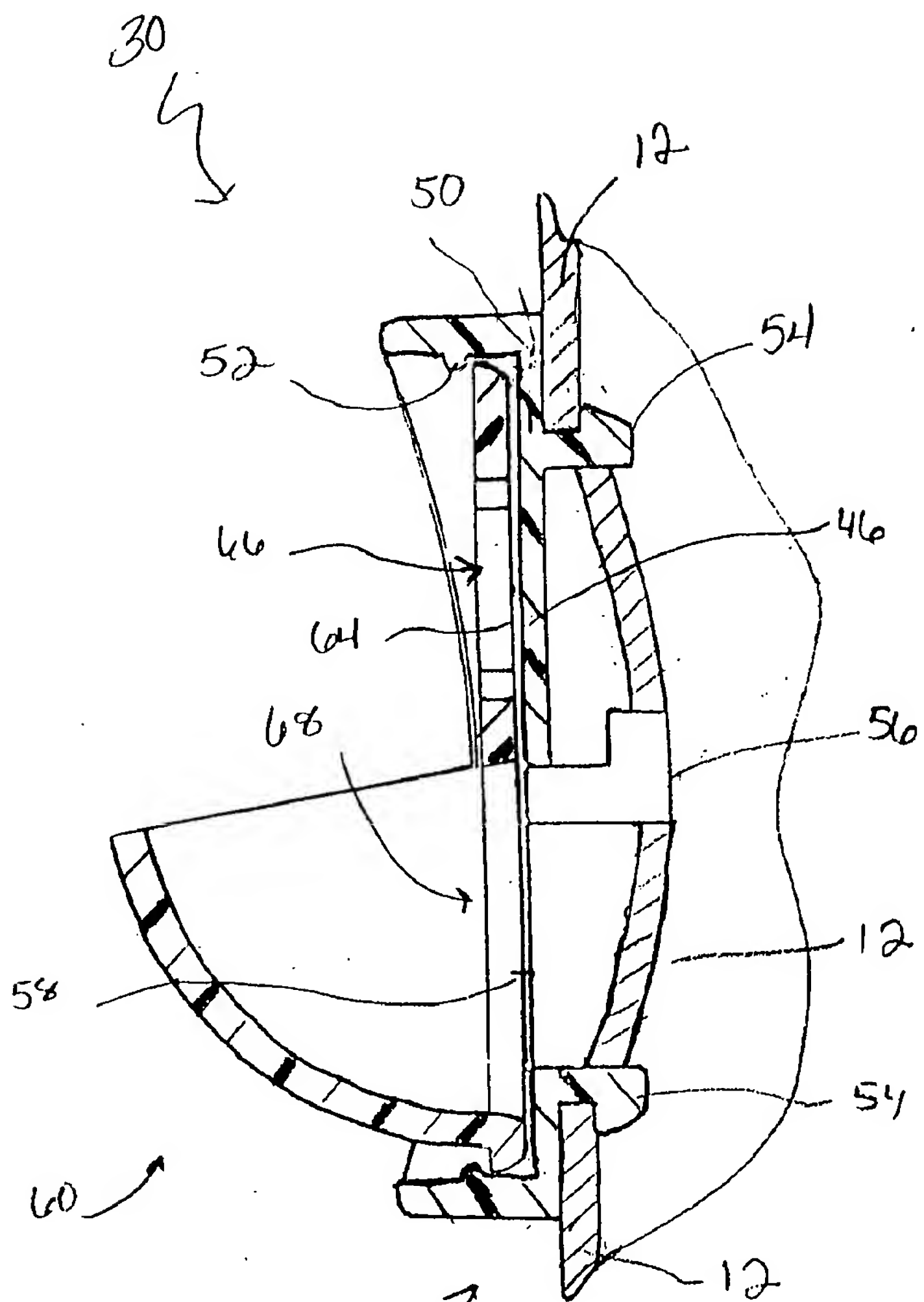


FIG 10(a)

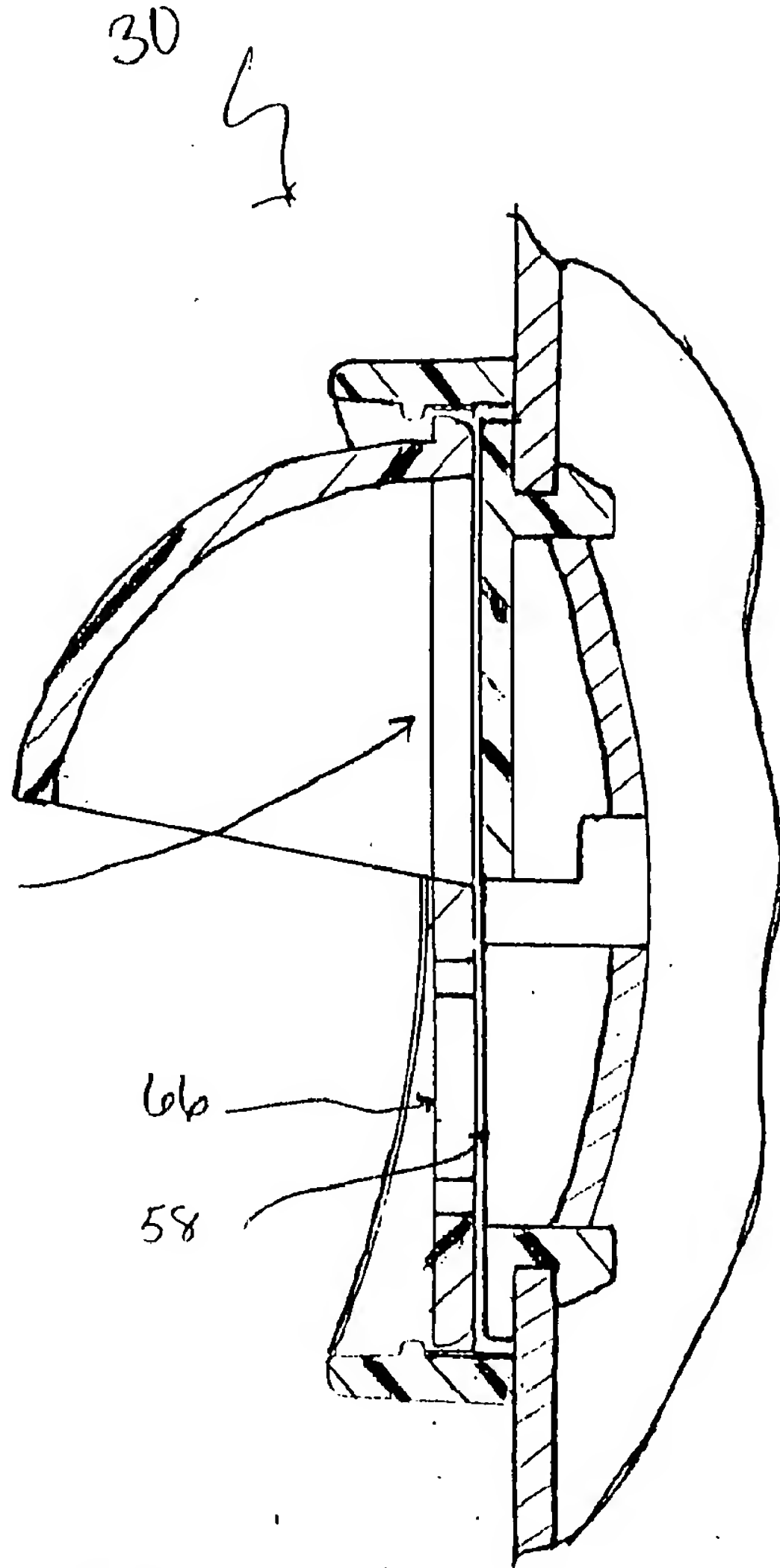


FIG 10(b)

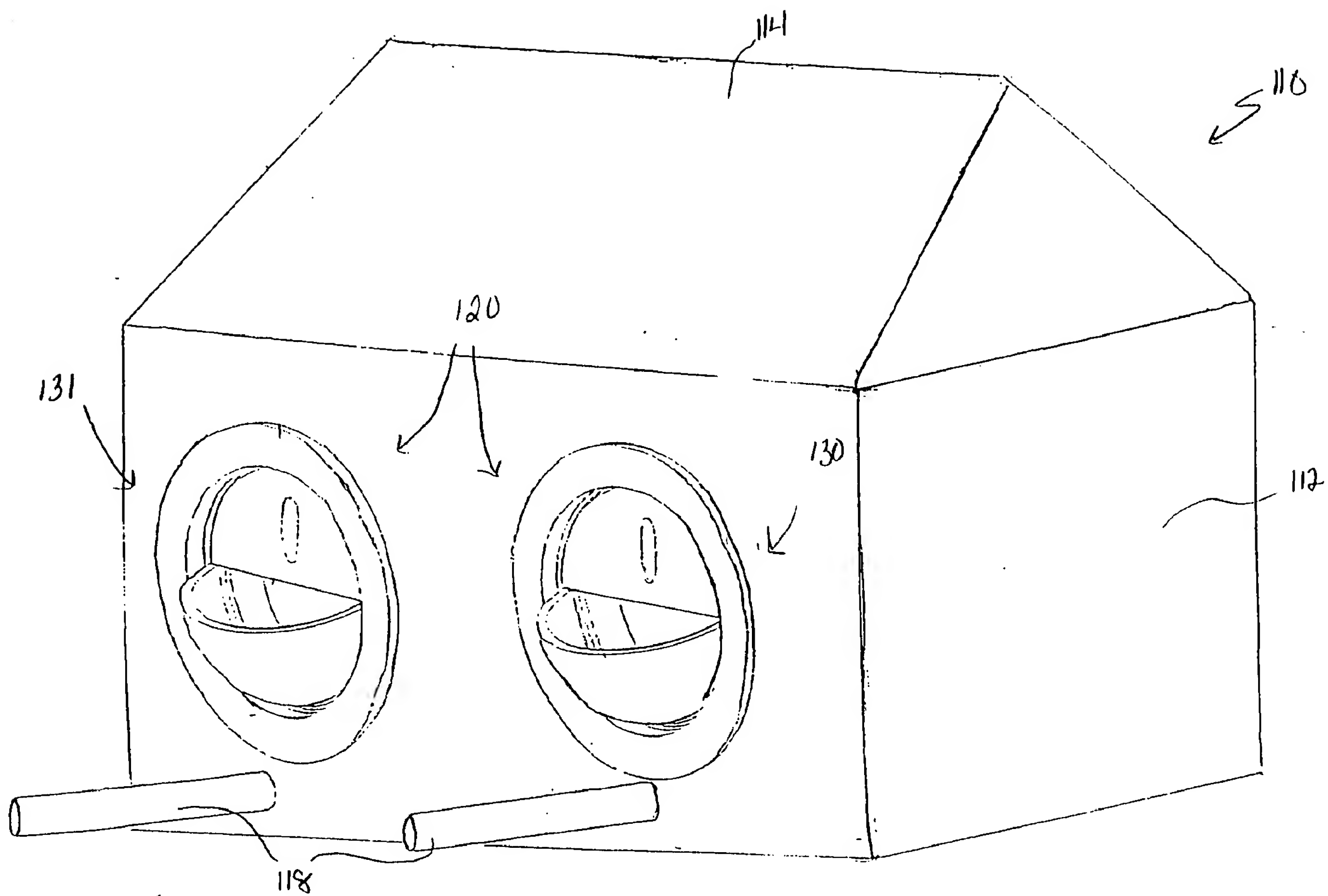


FIG. 11

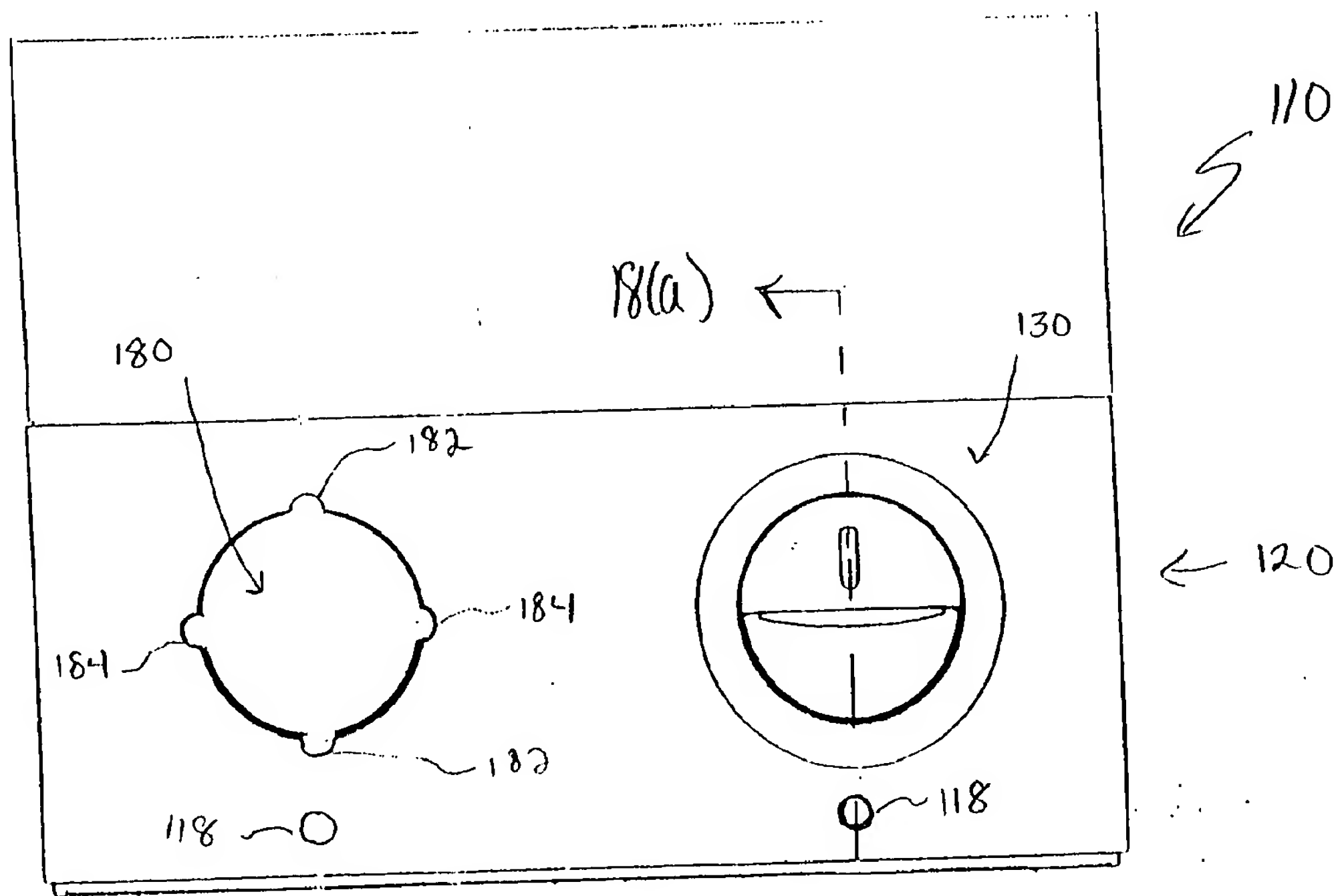


FIG. 12

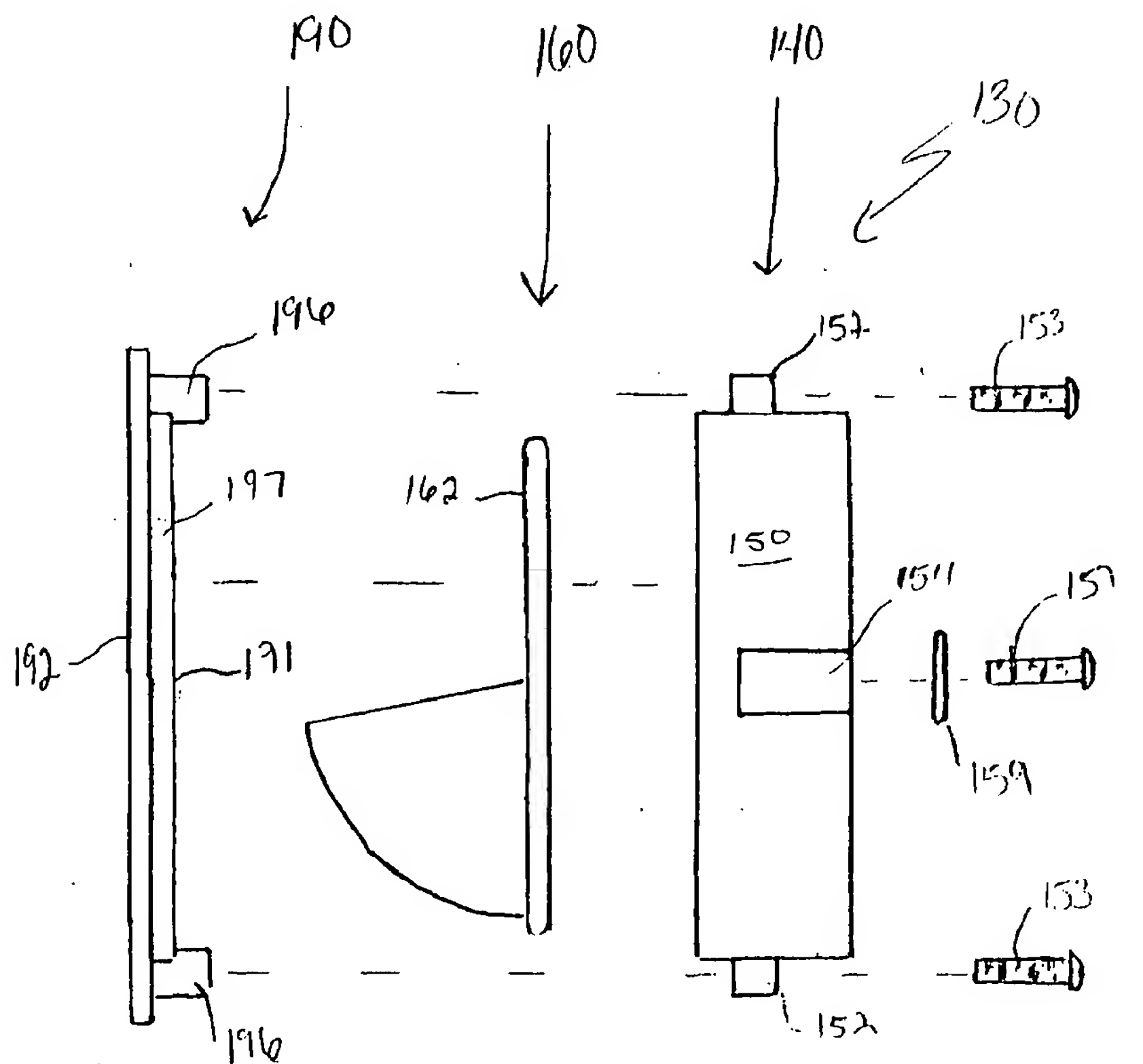
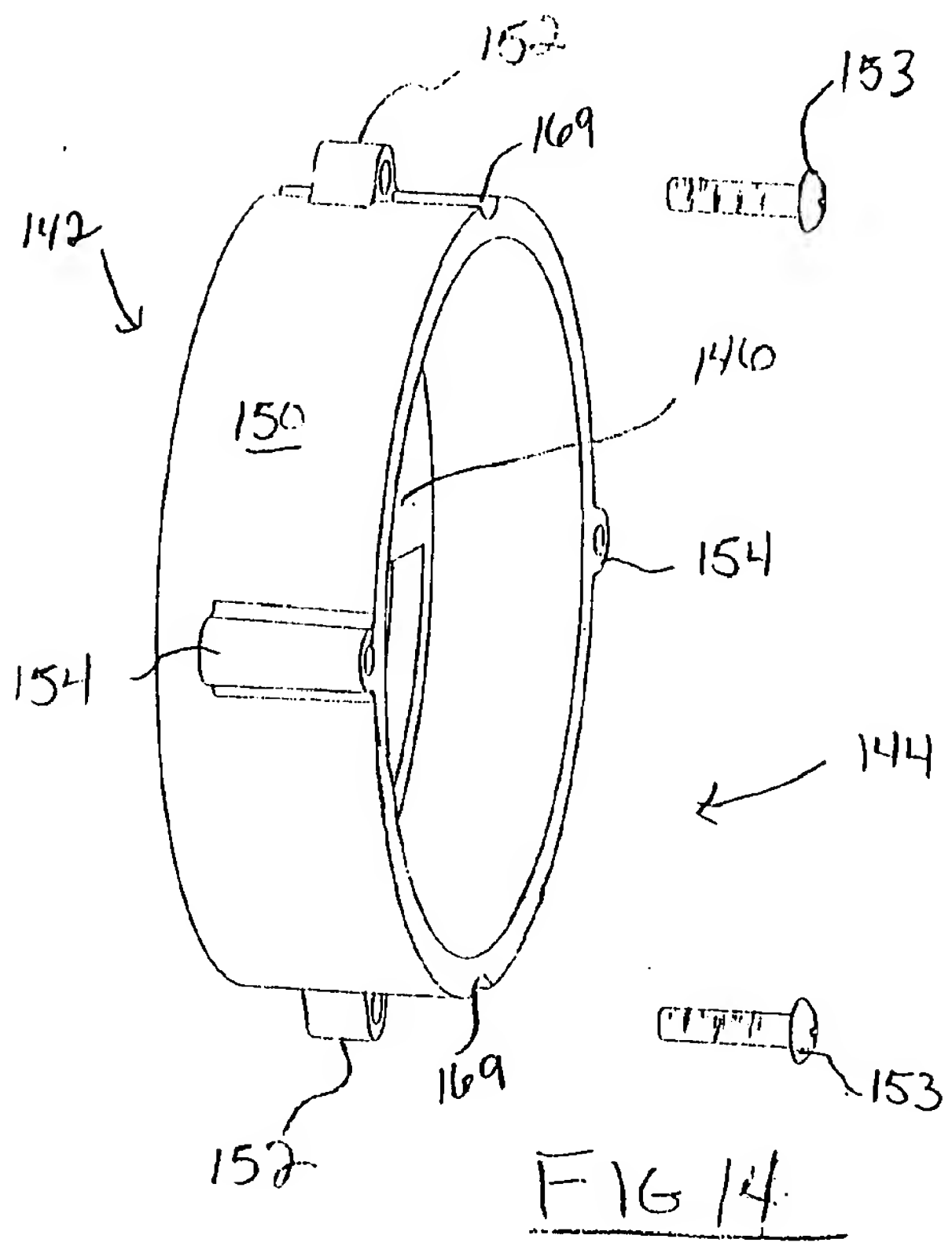
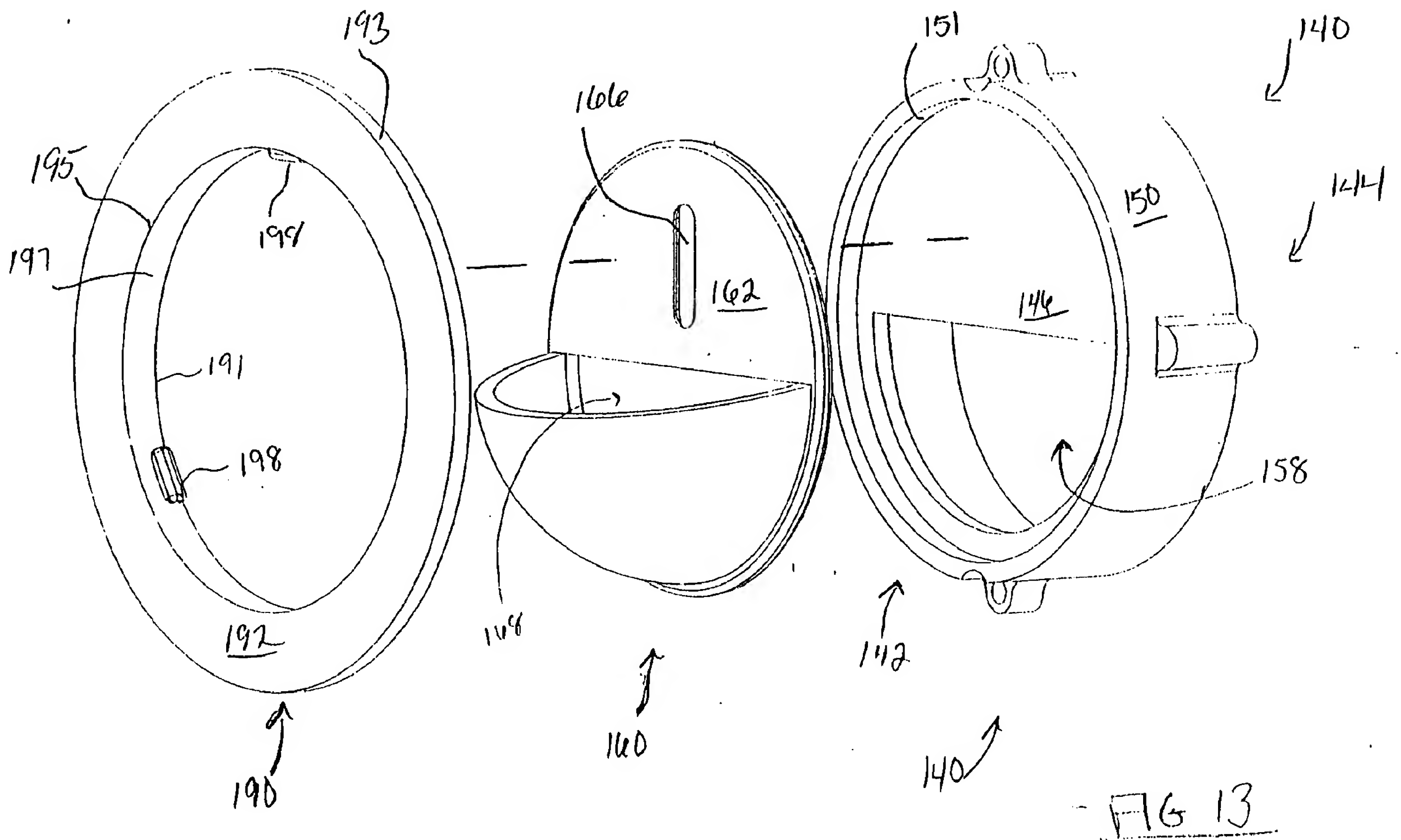
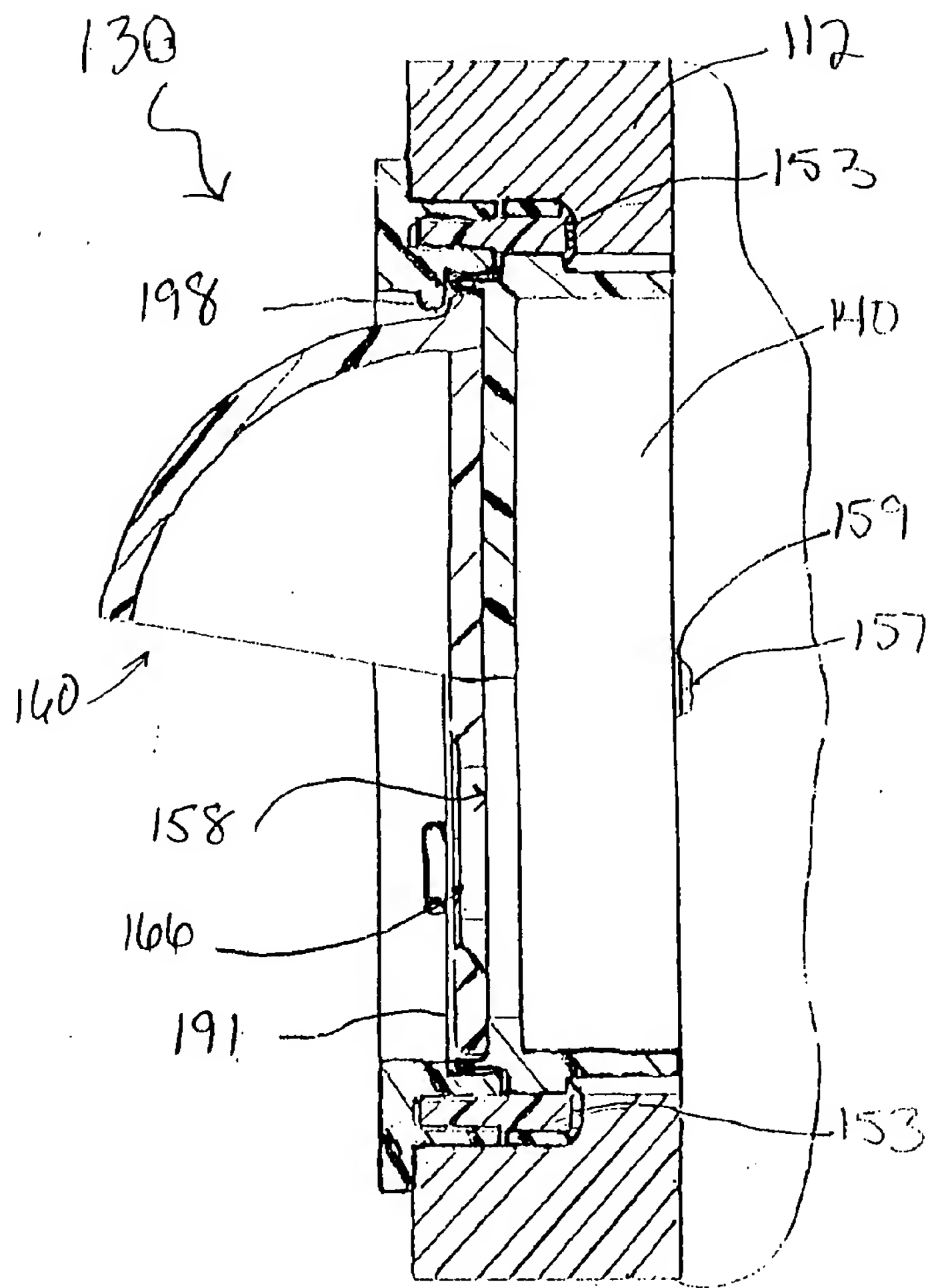
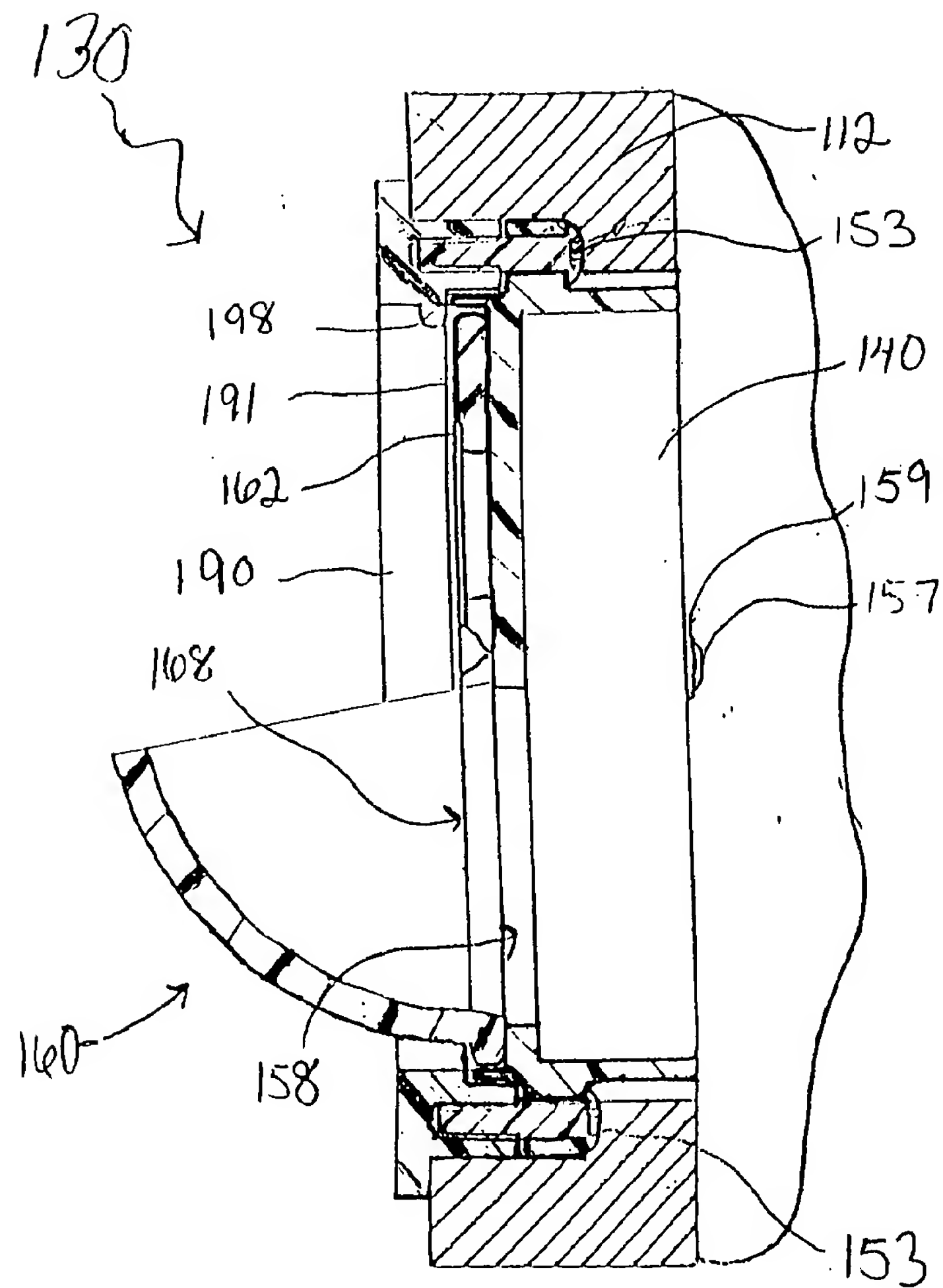
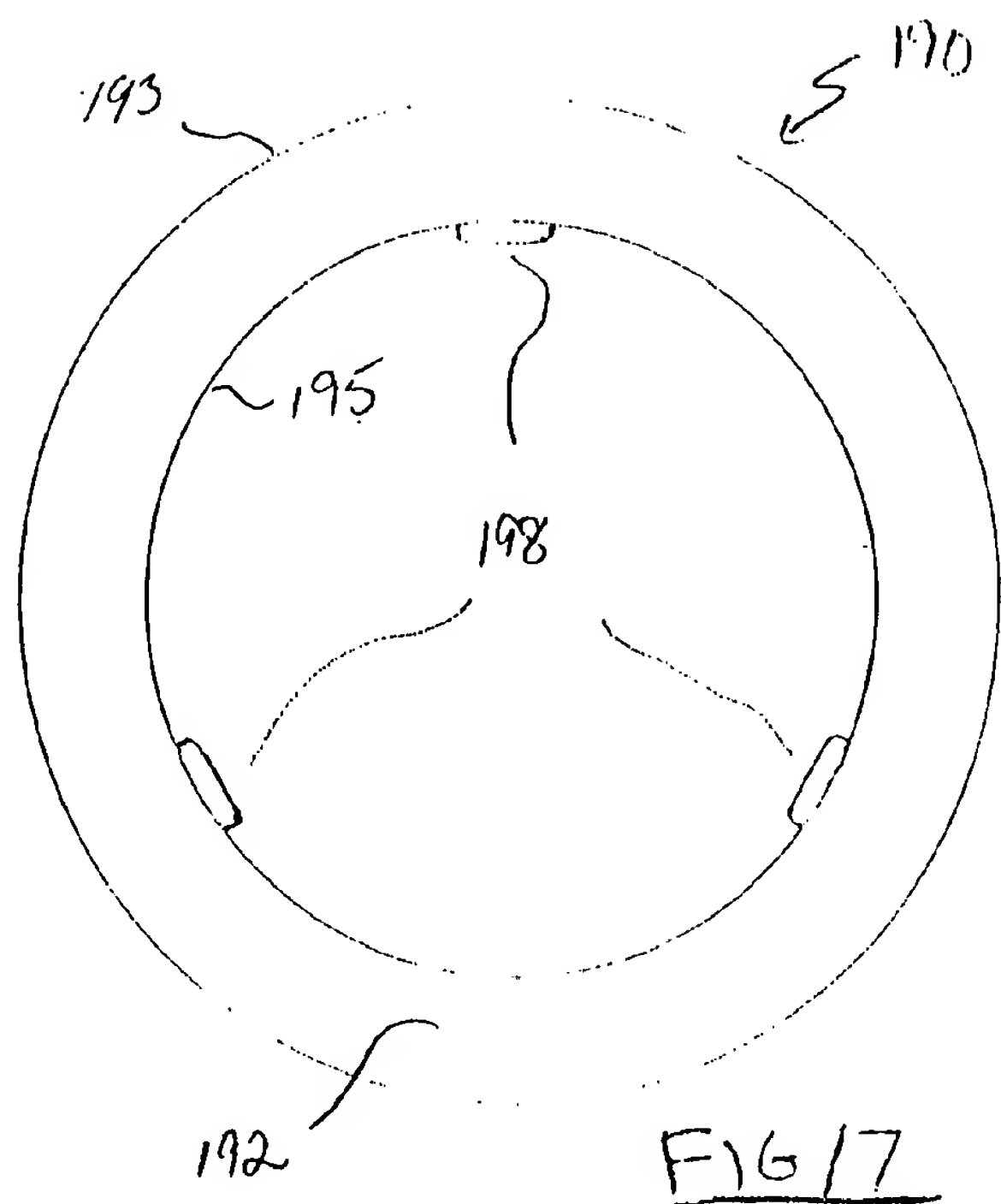
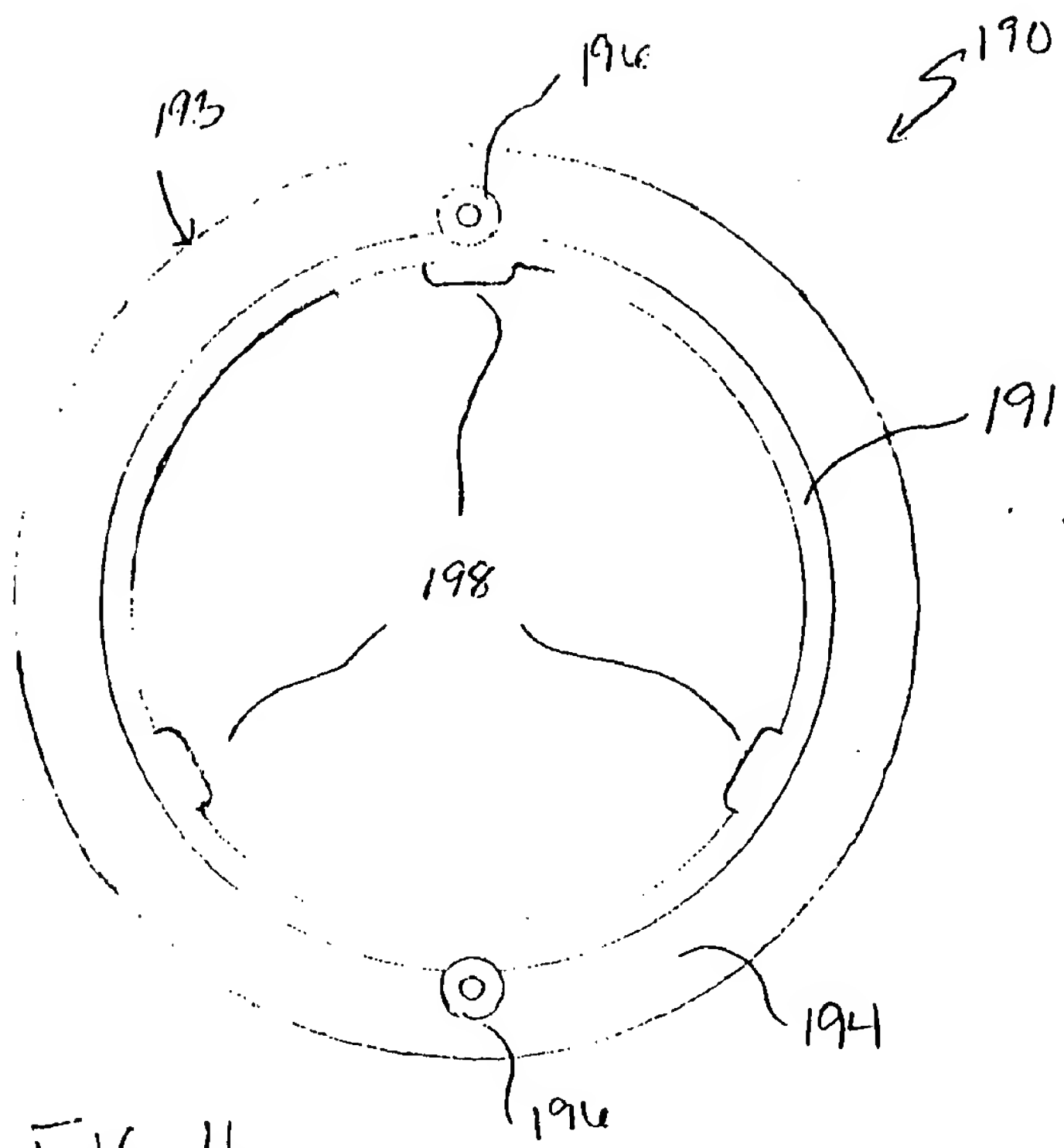


FIG 15



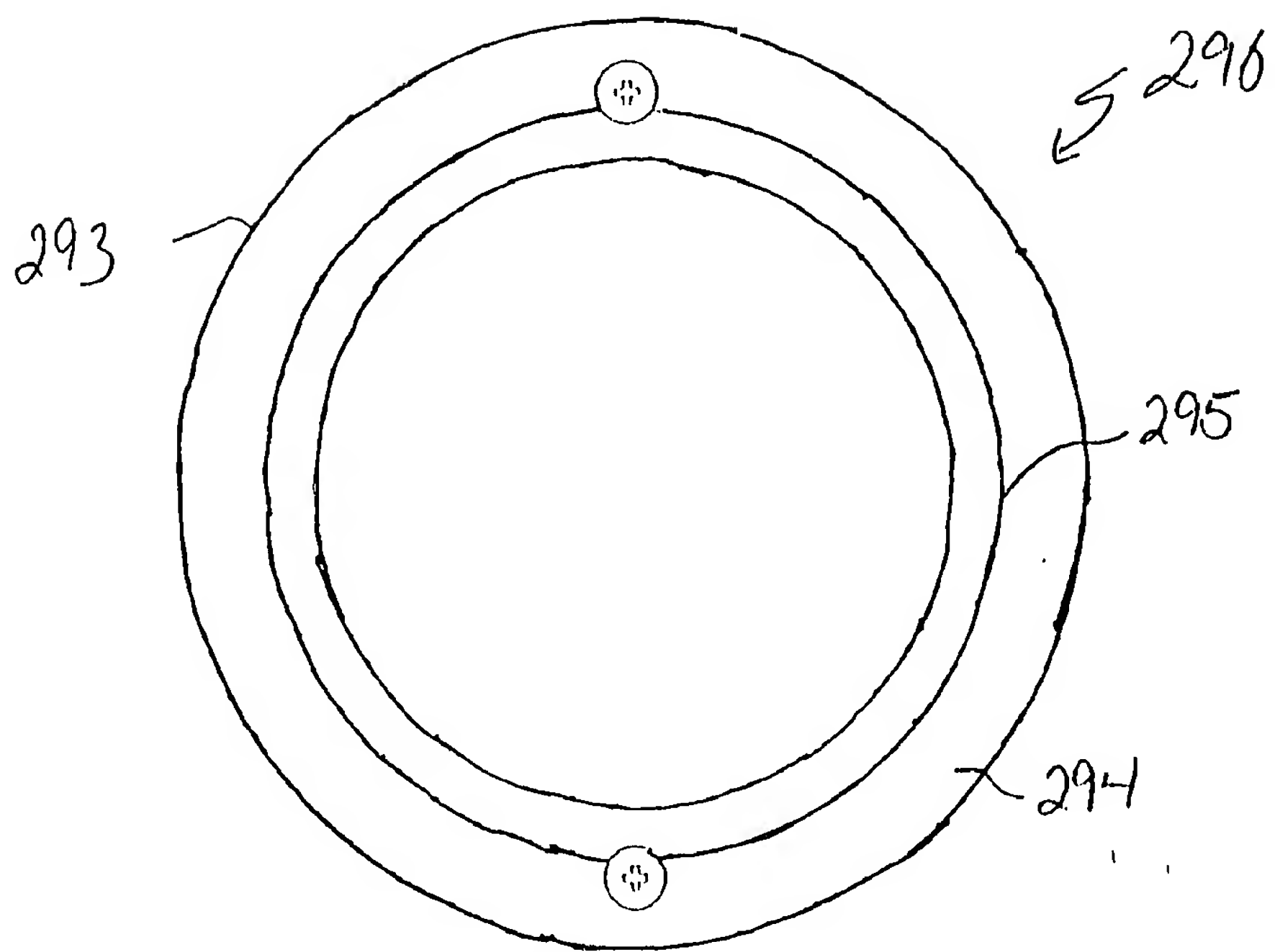


FIG. 19

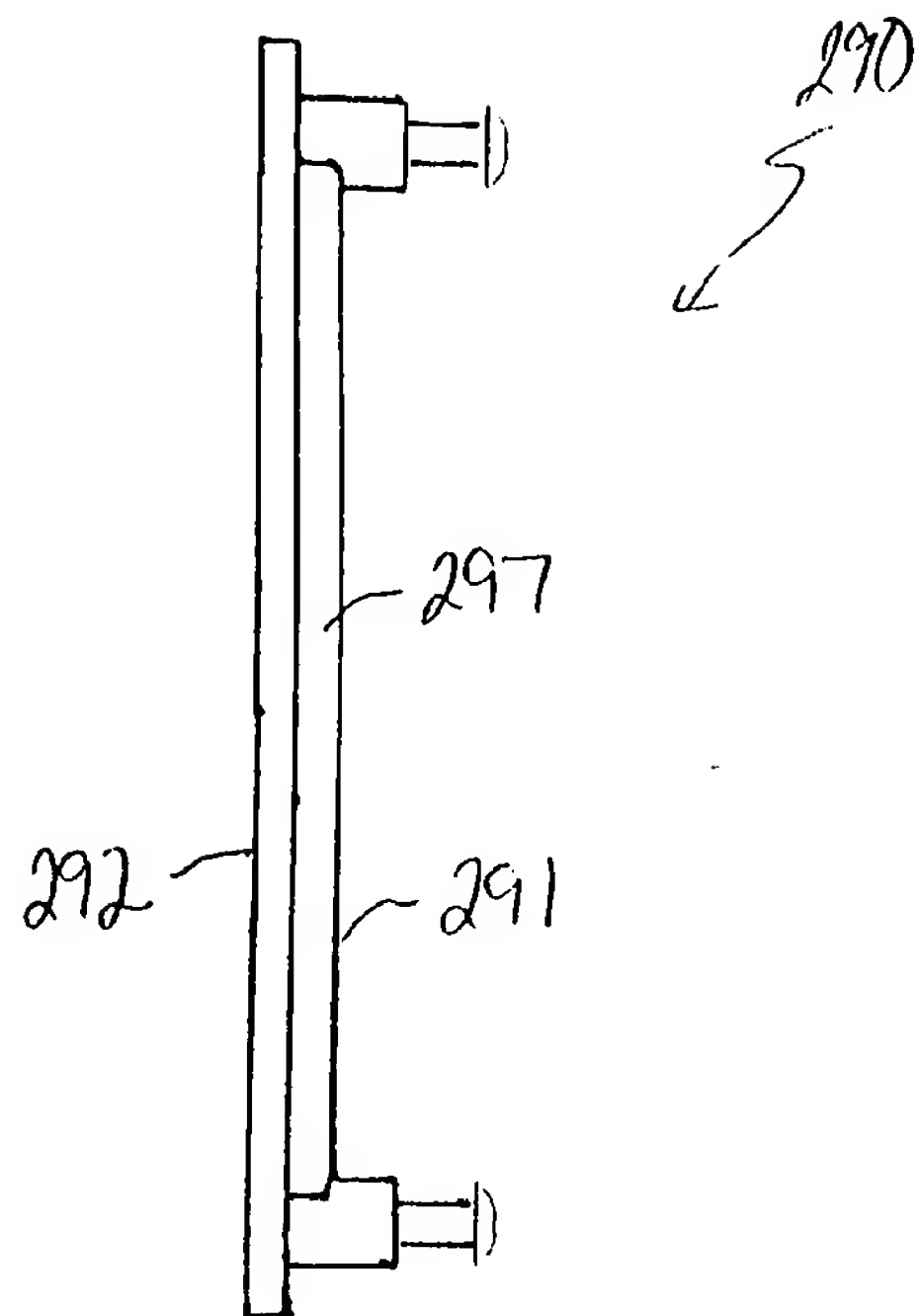


FIG. 20

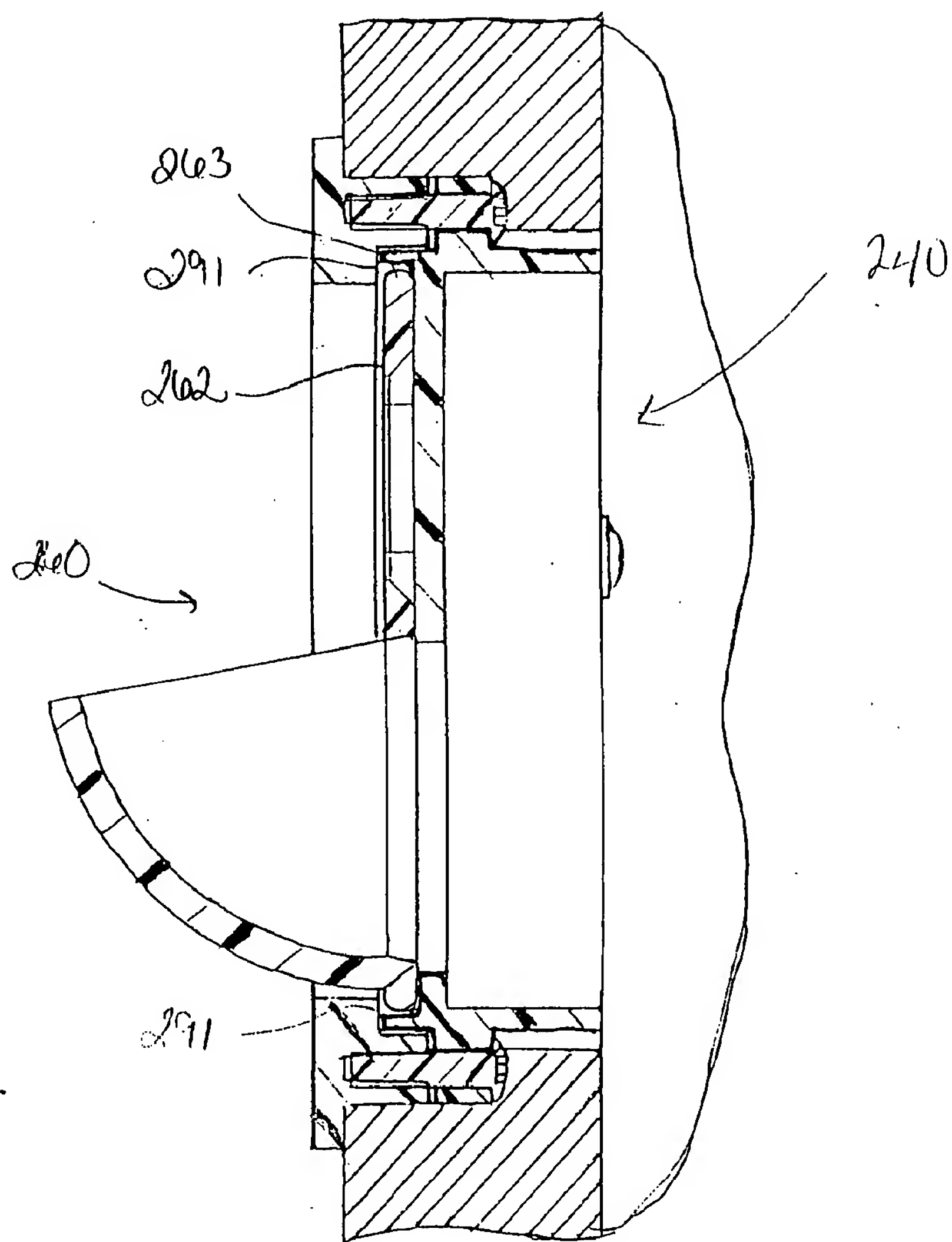


FIG 21

APPLICATION DATA SHEET

Electronic Version v14

Stylesheet Version v14.0

Title of Invention	BIRDFEEDER AND SEED DISPENSER THEREFOR		
Application Type: provisional, utility Attorney Docket Number: 2103			
Correspondence address: Customer Number: 24264 *24264*			
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